# FOREIGN DIRECT INVESTMENT AND CORRUPTION

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## Thesis Summary

In the last few decades, the world has witnessed an enormous growth in the volume of foreign direct investment (FDI). The global stock of FDI reached US$ 7.5 trillion in 2003 and accounted for 11% of world Gross Domestic Product, up from 7% in 1990. The sales of multinational enterprises at around US$ 19 trillion were more than double the level of world exports. Substantial FDI inflows went into transition countries. Inflows into one of the region's largest recipient, the Russian Federation, almost doubled, enabling Russia to become one of the five top FDI destinations in 2005-2006. FDI inflows in Russia have increased almost threefold from 13.6% in 2003 to 35% in 2007. In 2003, these flows were twice greater than those into China; whilst in 2007 they were six times larger. Russia's FDI inflows were also about 2.5 times greater than those of Brazil.

Efficient government institutions are argued by many economists to foster FDI and growth as a result. However, the magnitude of this effect has yet to be measured. This thesis takes a Political Economy approach to explore, empirically, the potential impact of malfunctioning governmental institutions, proxied by three indices of perceived corruption, on FDI stocks accumulation/distribution within Russia over the period of 2002-2004. Using a regional data-set it concentrates on three areas relating to FDI. Firstly, it considers the significance, the size and the sign of the impact of perceived corruption on accumulation of FDI stocks within Russia. Secondly, it quantifies the impact of perceived corruption on the volume of FDI stocks simultaneously estimating the impact of the investment in public capital such as telecommunications and transportation networks on FDI in the presence of corruption. In particular, it addresses the question whether more corrupt regions in Russia are also those that could have accumulated more of FDI stocks, and investigates whether those 'more corrupt' regions would have had lower level of public capital investment. Finally, it examines whether decentralisation increases or decreases corruption and whether a larger extent of decentralisation has a positive or negative impact on FDI (stocks).

The results of three studies are as follows. Firstly, along with market potential, corruption is found to be one of the key factors in explaining FDI distribution within Russia between 2002 and 2004. Secondly, corruption on average is found to be related to FDI positively suggesting that it may act as speed money: to save their time foreign direct investors might be willing to bribe the regional authorities so to move in front of the bureaucratic lines. Thirdly, although when corruption is controlled for, the impact of the latter on unobservable FDI is found to be on average positive, no association between FDI and public investment is observed with the only exception of transportation infrastructure (i.e., railway). The results might suggest therefore that it is possible that not only regions with high levels of perceived corruption attract more FDI but also that expansions in public capital investments are not accompanied by an increase of the volume of FDI (stocks) in regions with high levels of corruption. This casts some doubt on the productivity of the investment in public capital in these regions as it might be that bureaucrats may prefer to use these infrastructural projects for rent extraction. Finally, we find decentralisation to have a significant and positive impact on both FDI stock accumulation and corruption, suggesting that local governments may spend more on public goods to make the area more attractive to foreign investors but at the same time they may be interested into extracting rents from foreign investors. These results support the idea that the regulation of FDI is associated with and facilitated by a larger public sector, which distorts competition and introduces opportunities for rent-seeking by particular economic and political factors.

**Keywords**: Institutions, political economy, regional approach, public capital, decentralisation, Russia

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# Chapter 1:

# Introduction

*"I am not in the least afraid of foreign capital, as I consider it to be in the interests of our country: no country has been developed without foreign capital. What I am afraid of is the opposite. I am afraid that our way of doing things has such specific characteristics so different from the way things are done in civilised countries; that not many foreigners as a result will want to do business with us."*
*(Sergei Witte, Russian Premier Minister, at the end of the 19th century)*

*"...When the outcome of a game is not to what one likes, it is always tempting to change the rules."*
*(Eugene Huskey, at the end of the 20th century[1])*

In the last few decades, the world has witnessed an enormous growth in the volume of foreign direct investment (FDI)[2]. Figure 1 shows global FDI inflows to grow rapidly since 1995, reaching the maximum (in cumulative terms) in 2002. By 2008, these flows had risen for the 4th consecutive year driven by record values of cross-border mergers and acquisitions (M&As). In particular, FDI inflows reached $US 1.8 billion in 2007, up 30% from 2006, bringing the worldwide stock of FDI to $US 15 trillion (UNCTAD, 2008).

**Figure 1 Global FDI Inflows (1980-2005)**


*Note: Figure is in $US mln; at current prices*
*Source: UNCTAD (2008)*

[1] Huskey (1999: 185).
[2] Defined as an investment made to acquire a 'lasting interest by a resident entity in one economy ("direct investor") in an entity resident in an economy other than that of the investor ("direct investment enterprise" or MNE); the lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise' (OECD, 1996: 7).

The total inflows of FDI reached $US 1.5 trillion in 2008, with significant increases in all major countries-recipients. Figure 1 shows a distribution of global FDI inflows by year since early 80s pointing at a very significant increase in total FDI inflows between 2000 and 2006.

According to both experts and multinational corporations (MNEs), Russia was said to be among the five top FDI destinations in 2005 and 2006 (UNCTAD, 2008). Among the transition countries, Russia is a special case. Foreign investors say that it is becoming more competitive than ever along with China, India, Brazil and other emerging markets (FIAC, 2006). In comparison, while Russia had a 33.6% increase in FDI in 2005, China's FDI growth was flat, India had modest growth of 15.2% and Brazil's FDI declined from $US 18.2 billion to $US 15.6 billion.

Table 1 compares FDI inflows to Russia and some other BRIC (i.e., Brazil, Russia, India and China) as well as emerging market economies and industrial countries. Accordingly, FDI into Russia has grown since 2002 by almost 8.3 times, reaching around Euro 23 billion in 2006, or over 3% of GDP, which is more than three times the corresponding figure for 2002 and is comparable to the FDI share in China.

**Table 1 Gross and per Capita FDI in Russia and Comparator Countries (2003-2007)**


*Source: Rosstat, CBR, IMF's World Economic outlook*

The share of the RF in total inward FDI flows in the CIS, which had fallen during the 1990s, jumped from below 40% in 2002 to almost 70% in 2006 (which is, however, still below Russia's current share of the CIS aggregate GDP, at around 76%). Consequently, Russia has been a leader in attracting FDI between 2003 and 2007, compared with both emerging market economies and industrial countries. Table 1 show that in 2007 FDI inflows per capita in Russia have increased dramatically from 13.6% in 2003 to 35% in 2007. In 2003, these flows were twice greater than

those into China; whilst in 2007 they were six times bigger. Although Brazil has been also attracting much of the bulk of the FDI during these years, Russia's FDI inflows were about 2.5 times greater than those into Brazil.

With regards to FDI, the common perception is that it is largely driven by natural resources and market size, suggesting that natural resource-poor regions within Russia will attract very little or no FDI, regardless of the policies the regional government pursues. As a result, if FDI in Russia is concentrated in natural resources, the investment in natural resource extracting industries will not generate the positive spillovers (e.g., technological transfers, employment creation) that are often associated with FDI. Therefore, better understanding of the determinants of FDI at both inter- and intra-country levels is an imperative research agenda.

This research contributes to the existing International Business (IB) literature by exploring the impact of perceived corruption on the regional distribution of FDI within Russia. Understanding the impact of corruption on FDI is important since the former produces bottlenecks, heightens uncertainty and raises costs of doing business within a country. There is some empirical research to confirm that corruption adversely affects growth and domestic investment (Mauro, 1995; 1998). Moreover, some studies also show corruption to affect negatively the FDI inflows into a country (for example, Campos et al., 1999; Wei, 2000; Voyer and Beamish, 2004, among others).

There are several reasons for choosing Russia as a case study.

Firstly, it is the largest post-communist country with significant geographical, economic and ethnic diversity. Secondly, Russia was under the Communist rule longer than any other country in the world: privatisation and market development in Russia, therefore, is the most challenging example of post-Communist 'marketisation', and can hence be considered a "critical" case. Additionally, transition economies are an interesting context to explore the impact of institutions 'as the entire set of formal institutions has been remodelled in the 1990s' (Bevan and Estrin, 2004: 44), and a distinct yet diverse business environment has evolved in the process of transition from socialist planning to the market economy (Meyer, 2001).

The novelty of this dissertation is that it uses a regional approach to investigate the determinants of FDI. Russia's federal structure 'provides an interesting opportunity for econometric research as it allows...to investigate the consequences of different politico-institutional settings... [and] those of varying economic policies in entities with an almost identical judicial and cultural framework. Studies on Russia can thus avoid the general main criticism of cross-country studies [which is] their difficulties to account properly for the large differences in attitudes and cultures, and thus ignoring the most important difference between countries' (Ahrend, 2002: 5).

In the last 15 years, Russia has become one of the world's fastest-growing economies (along with other BRIC countries). Since the return of positive and strong growth after the 1998 financial crisis, growth rates averaged at 6.7% of Gross Domestic Product (GDP) in 1999-2006 reaching pick at 7.7% in 2007 (or 3.5 times the growth rate of the Euro area); making Russia one of the ten largest economies in the world. Russia's nominal GDP was worth over Euro 740 billion, or $US 1 trillion in 2006, roughly the size of Spain's. This statistics clearly show that Russia may have fully recovered from the deep "transition recession" started in the 1990s. The main engines of this transformation in Russia have been the dramatic growth in international trade and the huge inflows of FDI into the country.

FDI inflows to Russia almost doubled from $US 15.4 billion in 2004 to $US 28.7 billion in 2006 (both in un-deflated terms); recipients of these inflows were not only natural resource industries but also the retail and the automotive industries and banking (UNCTAD, 2008). Moreover, in an annual survey of Japanese manufacturing MNEs conducted by *Japan Bank for International Cooperation* in 2007 (www.unctad.org), a large number of respondents stated an intention to strengthen or expand their activities in Russia, indicating that the business environment in Russia has improved (World Bank, 2006).

Russia is a federal country that consists (between 1995 and 2006) of 89 regions or subjects of the federation (further, regions). A key feature of FDI distribution in Russia is however a significant polarisation of the distribution of FDI inflows across these regions. Another interesting fact about this distribution is that some regions which enjoyed a relatively high ratio of FDI in Russia are not necessarily adjacent to the capital city of Moscow or the surrounding Moscow region (Moscowskaya Oblast), nor are they concentrated in the areas near EU borders and along coastal and border zones.

Also the spatial pattern of FDI in Russia is completely different from those in CEECs, where FDI is targeted along the western border near the EU and in capital cities and their surrounding areas, and that of China, where MNEs are concentrated along the coastal areas. How can such patterns of FDI inflows distribution within Russia be explained? Why did some Russia's regions succeed in attracting FDI whilst others have failed? This thesis aims to find some plausible answers to these questions by studying the role that corruption along with infrastructure provision and the extent of decentralisation has in explaining the uneven regional distribution of FDI within Russia in a period of three years between 2002 and 2004.

A substantial body of research has sought to explain international flows of capital investment, with relatively little effort expended on the sub-national distribution of this investment in either Central and Eastern European Countries (CEECs) or transition countries, particularly in Russia.

Yet, knowledge of this distribution and the process of locational choice is an essential pre-requisite to assessing the impact of inward investment on the economic welfare of a country. In this dissertation we try to answer the following research questions:

1) What is the role of perceived corruption in influencing the locational decisions of foreign investors in Russia?

2) Controlling for public capital investment, what is the impact of perceived corruption on the amount of FDI?

3) What is the impact of decentralisation on corruption and how does this affect FDI stocks?

The contribution of the research is twofold. Firstly, it is the first study to provide comprehensive evidence to the existing body of empirical literature as to the role of perceived corruption on the FDI distribution using a regional approach. Secondly, the findings of this research will provide a source of relevant and reliable information for foreign investors and government bodies to assess the effects of a variety of business and public policy options. These findings can also assist in allocation of FDI resources.

The policy implications of this research are quite important. Since there is a large window of opportunity for improving the investment climate and attracting greater inflows of FDI in Russia, an understanding of FDI location decisions is important for policy-makers who believe that MNEs may offer a positive contribution to the economic development of disadvantaged areas and thus correct potential regional imbalances. The analysis presented in this thesis suggests that policies should be designed to reduce the discretionary power of the officials to curb their ability to contrive bribes.

The structure of the thesis is as follows. Chapter 2 surveys the recent IB literature on FDI determinants and investigates the determinants of FDI at both country and regional level. As a result, a number of possible determinants of the regional FDI distribution are selected for further empirical testing. Chapter 3 provides the reader with an understanding of the Russia's economic context, also analysing the trends of FDI in Russia; whilst Chapter 4 discusses the institutional context in which study takes place.

Chapter 5 tests whether or not and, if so, how perceived corruption affects the inter-regional distribution of FDI across Russia. Hausman-Taylor Random effect method is used that allows us to treat corruption as endogenous explanatory variable. Chapter 5 studies the impact of perceived corruption on FDI controlling for the investment in public capital. In particular, we study to what extent the differences in unobserved FDI stock accumulation are influenced by corruption as well as the dispersion of public capital using Tobit probability model.

Chapter 7 presents an explicit empirical investigation of the link between FDI and corruption through decentralisation. Here, the relationship among FDI, corruption and decentralisation is modelled by using the system of simultaneous equations method. Chapter 8 concludes the dissertation and summarises the major research findings as well as points at the main policy implications. This chapter also identifies the limitations of this research and addresses some possible areas for future work.

# Chapter 2:

# Literature Review

## 2.1 Introduction

As mentioned in Chapter 1, the main purpose of this dissertation is to analyse empirically the impact of perceived corruption on the FDI distribution within Russia. Before doing this, however it is necessary to identify the main determinants of FDI in such a way that an econometric model grounded in the existing literature can be built up. Once this is complete, it will generate the possibility to assess the additional impact that corruption (along with public capital investments and decentralisation) has on FDI stocks within a country.

To achieve such objective, existing theories and empirical papers that can explain the cross-country distribution of FDI are discussed in this chapter. The theoretical and empirical papers discussed here are drawn from IB literature that revolves around the different rationales MNEs have adopted to invest abroad. From these theories and empirical contributions, it is possible to derive a list of determinants of the cross-country distribution of direct investment abroad.

This IB literature on FDI is extensive, and there is no alternative but to be selective. Therefore, in the first part of the literature survey we will consider the main determinants of foreign investment with a particular emphasis on the IB literature that analyses the impact of (i) corruption, (ii) public capital expenditures and (iii) decentralisation on FDI; while the focus in the second part is on the determinants of FDI distribution in Russia. The summary of selected recent studies of FDI determinants is given in Appendix 2 (Table 2.1).

This chapter is organised in the following manner. Section 2.2 presents the key theoretical and empirical contributions to the study of the FDI and MNEs. Section 2.3 discusses the potential determinants of the FDI distribution in Russia. Finally, section 2.4 concludes and discusses the implications for the research which is presented in the following five chapters.

## 2.2 Theoretical Framework of the FDI Determinants

This section deals with the theories of the MNEs and their international activities (i.e., FDI). The theoretical and empirical literature which is devoted to the determinants of the FDI spatial distribution include, among the others, the early Hechsher-Ohlin model (suggesting that differentials in the country endowments of capital and labour may explain FDI inflows) and trade models (suggesting that FDI is a response to barriers to imports) (Markusen, 1995); the product life cycle model (regarding FDI as a way to expanding into un-penetrated markets) (Vernon,

1966); and the industrial organisation theory of FDI, which focuses on FDI as the natural outcome of international oligopolistic rivalry (Hymer, 1976 and Knickerbocker, 1973).

The IB literature on MNEs/FDI starts with Hymer's (1976) seminal work which can be seen to be the very first to systematically analyse the reasons why MNEs may want to invest abroad. At the time there was not a well-defined theory of FDI, therefore the question 'why' companies invest abroad was not answered and instead this early work concentrated on 'where' FDI is going. Accordingly, MNEs were said to locate in host countries where the domestic marginal productivity of capital was relatively low, from which they would transfer capital to subsidiaries abroad where the marginal productivity was higher. However, there was little understanding of the reasons for the MNEs or the nature of its operations.

As Hymer (1976) first observed, there were several features of MNEs inconsistent with this theory as the MNEs would overwhelmingly finance their host-country operations in host-country capital markets. Furthermore, there were substantial cross flows of FDI as well as substantial concentration of FDI in particular industries. These observations would be consistent with a capital arbitrage theory only if domestic capital markets were highly balkanised, which they were generally not.

Therefore, in searching for a plausible theory of FDI, Hymer's (1976) primary tenets were that FDI was motivated by: (i) desire to control foreign enterprises in order to remove competition and (ii) domestic firms' attempts to increase the returns from their competitive advantage (p. 33). It was also suggested that the sources of the advantages MNEs had to be in product market power, superior production techniques, imperfections in input markets (which allowed lower buying prices for incumbent firms), and first-mover advantages. Possessing such special advantages, a MNE could be profitable outside the home country despite the higher costs resulting from its relative ignorance of local conditions abroad. The so-called eclectic paradigm was built on the theoretical ground of Hymer (1976) and analyses, in contrast, why and where MNEs would invest abroad (Dunning, 1980; 1993). Dunning's (1993) Eclectic paradigm brings together a number of explanations for FDI and explains it by three categories or advantages.

The first category – ownership advantages (Os) – mean that the firm must own some unique competitive advantage (e.g., a brand name, ownership of proprietary technology) to overcome the disadvantages of competing with foreign firms on their home land. Os arise from the firm's size and access to market and resources, and the firm's ability to coordinate complementary activities (e.g., manufacturing and distribution) and the ability to exploit differences between countries.

As some products and/or services are not tradable however, and cannot be produced in one location for use in another location; they must be produced where the consumers are. Therefore,

the only way of sourcing a foreign market will be direct foreign production. Substitution in the opposite direction may occur if there are impediments to the transfer of capital and those FDI across frontiers but not to the movement of production which will lead to the sourcing of the foreign markets via exports.

The second category – locational advantages (Ls) – mean that undertaking the business activity must be more profitable in a foreign location rather than in a domestic location. Ls include differences in a country's natural endowments, transport costs, macroeconomic stability, cultural factors and government regulations. Some earlier theories have included a locational component. For instance, Vernon's (1966) product cycle theory; Knickerbocker's (1973) 'follow my leader' theory – which was one of the first attempts to explain the geographical clustering of FDI; or Rugman's (1979) diversification theory – which suggests that MNEs normally prefer a geographical spread of their foreign investment to having 'all their eggs in the same locational basket'.

The third category – internalisation advantages (Is) – arise from exploiting imperfections in external markets and include the reduction of uncertainty and transactions costs in order to generate knowledge more efficiently; and the reduction of state-generated imperfections such as tariffs, foreign exchange controls and subsidies. The internalisation approach to the theory of the firm can be traced back to Coase (1937) who brought to attention the inconsistency between the assumption that in market economies resources are allocated via price mechanism, and the reality that within firms such allocation is done by planning and direction rather than via arm's length transactions.

Coase's (1937) approach explains the existence and growth of the firm in terms of costs and benefits of internal transactions – and therefore of internal allocation of resources – versus the costs and benefits of external transactions and hence the allocation of resources through the market. Although the market, through the price mechanism, is taken to be the best allocator of resources, there may be costs associated with this allocation mechanism. The costs of operating via the markets and, therefore, of using the price mechanism as allocator of resources, derive from market imperfections of the transactional type.

Williamson (1981) uses economies of transaction costs to analyse the organisation of production, the growth of the firm, as well as the evolution of the internal structure of modern corporations and the issue of ownership and control within it. Both Coase (1937) and Williamson (1981) draw implications for the relationship between the legal framework in which the firm operates and its

economics: a good legal framework can protect the firm against opportunistic behaviour[3] as well as reduce uncertainties of operating in the market. The poorer the legal framework and its enforcement, the stronger incentive to internalise and avoid market transactions (Hennart, 2000). More recently, Casson (1997) developed a theory of the evaluation of the institutions (e.g., firms and networks) based on changes in costs and patterns of information. The Casson's (1997) theory is similar to that of Williamson (1981) as most transaction costs are information costs. Casson (1997: 279) points out however that the 'converse does not apply: there are important information costs which are not transaction costs'. The extension of transaction costs theory from the firm in general to the international firm is due to Buckley and Casson (1976: 33) and proposes the following.

Firstly, firms maximise profits in the world of imperfect markets. Secondly, when markets in intermediate products are imperfect, there is an incentive to bypass them by creating internal markets which involves bringing under common ownership and control the activities which are linked by the market. Thirdly, internalisation of markets across national boundaries generates MNEs. The imperfections they refer to are the transaction ones. The main groups of factors relevant to the internalisation decision are the following: industry-specific factors (the nature of the product and markets) that lead to the internalisation of markets for intermediate products; regional-specific factors; national-specific factors; and firm-specific factors (the firm's ability to organise and manage effectively internal markets).

If firms possess Os, they will rely on exports, licensing or the sale of patents, to service a foreign market. In the presence of Is however FDI becomes the preferred mode of servicing foreign markets, but only if Ls are present. Within the trinity of conditions for FDI to occur, *locational determinants* are the only ones that host governments can influence directly (World Bank, 1998). L component of the eclectic paradigm however has been neglected until recently (with the exception of some economists and business scholars such as Krugman, 1991, 1993; Venables, 1998; Porter, 1994, 1996).

Ls take different forms. For example, a MNE may indulge in FDI by building a factory in a country where it is cheap to extract natural resources or where the natural resources that the firm would use for production of its final product are cheap. This is an L because significant savings can be made on the cost of shipping natural resources from where it is produced to where it is

[3] That is, the pursue of self interest which is possible because of an asymmetry of information between the parties; it is likely to generate more problems when the market costs of small economic agents operating independently. Internal transactions give better protection against opportunistic behaviour as the level of information in this case is higher.

used. Dunning (1993) argues that the availability of natural resources, cheap labour and physical infrastructure enhances FDI activities.

Whereas it has not been possible to arrange firms' locational-specific decisions into a uniform theoretical pattern so far, the literature cites a large number of very different factors that have impact on business potential and the risks associated with individual locations. The most important determinants for the location of FDI are economic considerations. They come into full play once an enabling FDI policy framework is in place (Dunning, 1998). Following from the principal motivations for investing in foreign countries, Dunning (1998) grouped these economic determinants into four clusters: market-seeking, resource-seeking, market-seeking, efficiency-seeking and strategic assets/capability seeking. These economic determinants of FDI are summarised in Table 2.2 below.

### *2.2.1 Corruption and FDI*

Recent empirical evidence has confirmed that cross-country differences in growth and productivity are related to differences in the quality of governance (Rodrik, 2000; Jalilian et al., 2007; IMF, 2003). This approach has been extended recently to consider the impact of governance and institutions[4] through corruption on cross-country differences in FDI inflows. As a result, a number of recent empirical research studies confirm a link between higher perceived corruption and lower investment and growth (see, for example, Mauro, 1995).

One of the channels through which corruption hinders economic growth is its impact on FDI: while foreign investors bribe government officials to avoid costly government regulation, to obtain some preferential treatments and to win permissions to execute public capital projects, rent-seeking behaviour by bureaucrats impose costs on foreign investors, undermining their ability to account for such costs, and hence deterring FDI (Getz and Volkema, 2002 and Shleifer and Vishny, 1993).

There is a fair amount of theoretical research looking at the relationship between FDI and corruption. From a theoretical perspective, corruption may act either as a "grabbing hand" or a "helping hand" for inward FDI (Jain, 2001 and Aidt, 2003). The "grabbing hand" image of the state was proposed and developed by Shleifer and Vishny (1993). According to this view, corruption can increase the costs that foreign investors have to incur to invest abroad to the point of making it unprofitable.

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[4] Institutions have been defined in a variety of ways. According to Douglas North's widely cited definition, the term 'institution framework' refers to the set of informal and formal 'rules of the game' that constrains political, economic and social interactions (North, 1990; 1991).

**Table 2.2 Economic Determinants of FDI**


*Source: Author, also see Dunning (1998)*

Therefore, we would expect that high levels of corruption in a host country are associated to small volumes of investments from abroad. On the other hand, corruption can act as a "helping

hand" to foster FDI inflows (see Leff, 1964 and Huntington, 1968)[5]. In the presence of regulations and other administrative controls corruption can help foreign corporations to lower the costs of operating in a foreign environment.

The empirical research on the relationship between FDI and corruption is relatively small however as data on corruption have been available only for a short time. The empirical research also tends to focus on cross-country variation in the FDI inflows and on the extent to which the volume of FDI is affected by the level of corruption in the host country. It tends on average to confirm the role of "grabbing hand" of corruption where bureaucrats in host countries tend to extract rents from foreign investors and so increasing the cost of doing business in the country[6].

For example, Hines (1996) shows that after 1977 FDI from the US has grown faster in less corrupt countries than in more corrupt ones. Alesina and Weder (2002) in a cross-country analysis of the determinants of FDI covering period 1975-1995 find aggregate FDI flows to be negatively related to corruption, although not very strongly. By using data on bilateral FDI stocks from OECD countries, Wei (2000) finds a significant and negative association between corruption and FDI. Habib and Zurawicki (2002) find that the difference in the corruption levels between the origin and the host country has a negative impact on bilateral FDI.

Zhao et al. (2003) find that high levels of corruption significantly hinder the inflows of FDI using a cross-section of 40 countries. Voyer and Beamish (2004) empirically examine the relationship between corruption and Japanese FDI in 59 countries and find that Japanese investors invest less in countries with high levels of corruption. However, if the long-term impact of corruption is allowed for, then corruption and inward FDI appear to be positively correlated.

Egger and Winner (2005) find a clear positive relationship between the two variables in a sample of 73 developed and less developed countries (period of 1995-1999); these results suggest that administrative controls and bureaucratic discretion are used to allow government officials to share in the profits from FDI. Later, however, Egger and Winner (2006) consider a longer time period (from 1983 to 1999) and find that the negative impact of corruption on FDI outweighs its positive impact.

A certain number of studies have focused on transition economies. Smarzynska and Wei (2000) analyse the investment decisions of 534 multinationals and find that high level of corruption can

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[5] These distinctions between "good" and "bad" corruption are not new. Along the same lines, Rose-Ackerman (1975, 1978 and 1999) made a distinction between bribery to change the rules and bribes to deviate from an honest implementation of the existing rules. Shleifer and Vishny (1993) distinguish between efficient and disorganised corruption.

[6] The exception is an early study by Wheeler and Mody (1992) who found that corruption (among many other variables) has no significant impact on the location of US foreign affiliates.

have a negative impact on the multinationals' decision to invest in transition countries. Abed and Davoodi (2000) focus on the role of corruption in explaining key measures of economic performance in the transition economies and find that corruption is negatively related to FDI flows into transition economies.

Grosse and Trevino (2005) examine the relationship between FDI inflows in transition countries and governments' efforts to create a better economic environment and find that corruption is an element of the institutional environment that increases uncertainty and costs associated with long-term capital investment.

In contrast to the studies outlined above, Hellman et al. (2000, 2002, 2003) use firm-level data from *Business Environment and Enterprise Performance Survey*, a comprehensive survey of over 4000 firms in 22 transition countries. The authors distinguish among different types of corruption, namely state capture, administrative capture and influence. Hellman et al. (2002) find that state capture deters both foreign and domestic private investment and creates obstacles to the entry of small and medium-sized enterprises.

Even more interestingly, Hellman et al. (2003) argue that when a country becomes 'a capture economy', FDI can magnify the problem since in high-capture economies foreign investors engage themselves in state capture even more than domestically owned firms. Hellman et al. (2003) find that corruption reduces FDI inflows and attracts lower quality investment in terms of governance standards. Finally, Jensen (2002) examines the effects of state capture in transition economies on the level of FDI inflows and finds this has a large and statistically significant effect on FDI inflows.

What conclusions can we draw from the studies that examined the relationship between FDI and corruption that can be helpful for our analysis? A review of the literature shows that despite a number of attempts made to investigate the relationship between FDI and corruption at country level, the possibility that the regional or intra-country distribution of FDI flows can be explained by different levels of rent-seeking behaviour (corruption) has not been analysed in the current literature.

The only exceptions are provided by Manaenkov (2000) who shows that the political risk and bureaucratic red tape may affect adversely the regional inflows of FDI and Popov (2001) who finds that institutional development is an important determinant of regional FDI inflows. We can therefore conclude that further empirical analysis that link FDI and corruption is needed, which is exactly the purpose of the analysis conducted and presented in Chapter 5.

### *2.2.2 Corruption, Public Capital and FDI*

There are a few empirical papers that have assessed the impact of corruption on the accumulation of public capital. In particular, they have focused on (i) how corruption affects the composition of public spending and therefore the accumulation of public capital and (ii) the quality and costs of the resulting public infrastructure. The general conclusion of this literature is that corrupt bureaucrats favour infrastructural projects from which rent extraction is easier but that will not necessarily generate productive public capital.

Regarding (i), Tanzi and Davoodi (1998) find that that corruption is likely to increase *public* investment because it can be easily manipulated by government officials and gives rise to the payment of higher bribes by those who carry out the project. However, the authors point out that some public investment can end up *reducing* a country's growth because the average productivity of public investment falls. By using data relative to the 20 Italian regions, Del Monte and Papagni (2007) have examined the regional-level public investment to quantify the impact of corruption on the accumulation of public capital. They find that a high level of corruption reduces the contribution that a given level of infrastructure investment makes to growth.

Regarding (ii), Tanzi and Davoodi (1998) also provide evidence that, other things being equal, a high level of corruption is associated with low operation and maintenance expenditure and poor quality of infrastructure. Estache and Kouassi (2002) show corruption to increase the cost of providing water in Africa. Henisz (2002) investigates whether a high level of corruption lengthens the lag in initial adoption of new technology and whether it lowers the level of subsequent investment over the course of a century, using data on more than 100 countries.

The results show that corruption has significant and substantial effects. In most regions, a reduction in corruption would have raised the likelihood that a telephone network would be installed within 50 years of the first global installation and from 15 to 38% for electricity generation. The same improvement would also have raised the subsequent rate of infrastructure investment. A study by Dal Bó and Rossi (2007) focuses on the impact of corruption on labour productivity and total operation and maintenance costs of 80 electricity utilities in 13 Latin American countries and find that corruption affects both measures of performance.

Kaufmann et al. (2004) consider the impact of corruption on the access to services and the quality of service delivery for water, sewerage, electricity and telephones in 412 cities in 134 countries. The measure of corruption used by authors includes information at the level of the city as well as for the country as a whole: both the extent of bribery for utilities in cities and the level of state capture at the national level. They find that each measure of corruption has significant and substantial effects on both access to services and the quality of service delivery.

Empirical literature shows public capital expenditure on infrastructure to be critically important in the location decision-making of foreign investors (Coughlin et al., 1991; Chen, 1996; Glickman and Woodward, 1998; Wei et al., 1999). Not only infrastructure has to be in place but it also needs to be created if a country aims at attracting sufficient amounts of FDI inflows (Dunning, 1993). Many studies have found a positive relationship between public capital and FDI showing a clear preference by foreign investors for locations that are well-connected by transportation and telecommunications infrastructure as well as for coastal areas (Wheeler and Moody, 1992; Deichman, 2001; Deichman et al., 2003 among others).

A number of studies on FDI distribution within China, for instance, show public capital expenditure to be an important determinant of FDI distribution (for instance, Head and Ries, 1996; Wei et al., 1999; Cheng and Kwan, 2000; Tung and Cho, 2001; Zhang, 2001; Sun et al., 2004 among others). Other inter-country studies have found a significant link between public capital and FDI in developed countries (for example, Coughlin et al., 1991; Wheeler and Moody, 1992; Head et al., 1995; Billington, 1999; Coughlin and Segev, 2000; Urata and Kawai, 2000; Globerman and Shapiro, 2002; 2003; Reynolds et al., 2004; Fung et al., 2005; Nasser, 2007; Mina, 2007).

Several studies on Eastern Europe, Latin America and Asia find better public capital provision to have a significant and positive impact on FDI (such as Buckwalter, 1995; Makabenta, 2002; Erdal and Tatoglu, 2002; Mudambi and Navarra, 2003; Boudier-Bensebaa, 2005 among others). Studies of Morrisset (2000), Asiedu (2002), Onyeiwu and Shrestha (2004) and Dupasquier and Osakwe (2006) examine such relationships in Africa.

Whilst most studies found the importance of infrastructure for FDI, there are a number of studies that failed to validate the hypothesis. For instance, Quazi (2005) could not establish a positive and significant relationship between infrastructure (measured as the number of telephones per 1000 people) and FDI using panel data from 1995-2000 for a sample of seven East Asian countries. The author however advocates that it is plausible that the proxy variables used in the study (i.e., the natural log of the number of telephones available per 1000 people and the adult literacy rates), perhaps inadequately capture their true effects on FDI.

A number of conclusions can be drawn from the preceding literature on FDI, corruption and public capital that can be helpful for the analysis. Obviously, although there is lack of studies examining analysing the relationship among FDI inflows, accumulation of public capital and corruption, it is not possible to draw conclusions that can be immediately adapted to our case. Empirical analysis should examine which effect will prevail, hence the focus of our analysis discussed in Chapter 6.

### *2.2.3 Corruption, Decentralisation and FDI*

In recent years, decentralisation[7] has become an important theme of governance in many developing countries. Although decentralisation has been argued to be crucial to combat corruption, the existing empirical evidence is mixed: the literature on corruption has boomed, relatively few studies have been carried out that explicitly focus on the linkages between decentralisation and corruption or linkages between corruption, decentralisation and FDI. This is an unexpected finding as decentralisation can lead to an increase in opportunities for bribery. The latter proposition has been highlighted in the literature by, for instance, Schleifer and Vishny (1993) and Treisman (2000)[8].

Several theoretical and empirical models have been developed to explore whether decentralisation leads to less or more corruption point. These models nevertheless shed little light on the linkages between decentralisation and corruption. For instance, it has been argued that 'decentralised political systems are more corruptible, because the potential corruptor needs to influence only a segment of the government, and because in a fragmented system there are fewer centralised forces and agencies to enforce honesty' (Banfield, 1979: 98).

Some later attempts to investigate the link between corruption and fiscal decentralisation. Shleifer and Vishny (1993), for example, studied bribes under different markets and argue that if different government levels can provide the same public service, bribes offered to secure that service may be driven to zero.

Further, Tanzi (2000) argues that although through weakening of the personal link between officials and those they serve a larger and possibly more centralised country decrease the probability for corrupt activities to take place, there is also a possibility that stronger personal links might have the opposite effect by making it easier for corrupt individuals to collaborate. Tanzi (2000) also argues that smaller municipalities can have affordable bribe rates and fewer means of fighting corruption as well as greater opportunity for detailed regulation of economic activity, encouraging corruption as a result. This statement was supported by the results of Persson et al. (2003) who find relatively smaller voting districts to lead to more corruption.

Moreover, some economists have also suggested that corruption may be greater at the local level: Prud'homme (1995: 211) argues that there are probably more opportunities for corruption at the

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[7] Decentralised governance is defined as 'institutional rules which allocate some governmental decision rights in a country to independent regional governments of non-overlapping territories inside the country' (Kessing et al., 2007: 8).

[8] Such as the decentralisation of functions from central governments to local governments (e.g., the power to issue licenses, to hire new staff, to choose the projects to finance, the power over foreign investors, etc.) that increase the opportunities for corruption.

local level. Firstly, local officials usually have more discretionary powers than national decision-makers. Secondly, local bureaucrats and politicians are likely to be more subject to pressing demands from local interest groups.

On the one hand, Manor (1999: 101) stresses that decentralisation 'is always followed by an increase in the number of persons who are involved in corrupt acts', although this need not imply that the overall amount of money diverted by corrupt means increases. On the other hand, Weingast (1995) argues that a federal state structure contributes to more honest and efficient government by providing competition among sub-jurisdictions which supports a classical argument of Tiebout (1956).

Also, Tanzi (2000) contends decentralisation to lead to an increase in the extent of regulation. Regulations affecting economic activities however are usually not imposed by national but by sub-national governments and 'the reason for hypothesising the existence of a relationship between decentralisation and corruption is that, in many countries, local institutions are less developed than national ones' (p. 7).

Further, Carbonera (2000) points at the fact that decentralisation has a 'positive' impact on corruption raising individual propensity to accept bribes. According to the model presented in the study, there is also a twofold effect on incentives to monitor corrupt activities by higher levels. Firstly, it causes a loss in control, reducing their willingness to monitor. Secondly, it also increases the bribe paid to lower levels, enhancing their propensity to corruption and raising higher levels' monitoring.

Empirical studies of the linkages between corruption and decentralisation in either developing or transition countries, however, are relatively few or none. The existing literature uses cross-country regression analyses and case studies. This literature has two features in common: it (i) exploits data on corruption derived from perception indices and (ii) explains corruption as a function of countries' policy-institutional environment. Moreover, the use of cross-country data lends itself to study macro-determinants and effects of corruption.

Given the problems of collecting quantitative data on corruption, the use of perception data makes it feasible to study a large cross-section of countries. Scholars use different measures of decentralisation. Measuring decentralisation as transfers from central government to other levels of national government as a percentage of GDP, for instance, Lederman et al. (2005) find that this variable reduces corruption significantly.

Likewise, taking a binary variable of centralised unitary states and decentralised federal systems, Ali and Isse (2003) report lower corruption as a result of decentralised government. Qian and Weingast (1997) and Jin et al. (2005) argue decentralisation to be an important contributing

factor to rapid economic growth in China since the early 1980s. In contrast, Blanchard and Shleifer (2001) argue that local governments retarded growth in Russia in the 1990s. Both sets of authors seem to agree that the effects of government decentralisation have varied substantially between China and Russia. On the other hand, federalism has been found to reduce corruption by Fisman and Gatti (2002) and Arikan (2004).

Treisman (2000), using Transparency International's *Corruption Perception Index* as the main dependent variable in the regressions, finds federal states to be more corrupt than unitary once. That is the states that have more tiers of government are found to have higher level of perceived corruption and be more inefficient in providing public services. The fact that states which have more tiers of government are more inefficient in providing public services can be explained by the collective action problem[9] for semi-autonomous central and sub-national officials in deciding how much to extract in bribes from businesses that both levels have.

Accordingly, the likely result of decentralisation is seen as the 'sub-optimally high demands for bribes that end up driving many private actors out of the market' (p. 441). In other words, Tresman (2000) suggests that although the competition between autonomous levels of government to extract bribes leads to 'overgrazing' of the commons[10], in unitary states more effective hierarchies of control enable central officials to limit the extraction of sub-national officials to more 'reasonable' levels. This is supported by Goldsmith's study (1999), who conducted a regression analysis based on corruption perception indices and found that federal or decentralised systems to be not favourable settings as they make it easier to hide corrupt practices.

These findings show that countries with smaller first-tier jurisdictions tend to be perceived as more corrupt. However, if these interpretations are correct, decentralising of political power in poor countries that are susceptible to corruption should be done with caution. By contrast, Gurgur and Shah (2000) found decentralisation to support greater accountability and reduces corruption in the public sector. Decentralisation is also found to have a greater negative impact on corruption in unitary countries than in federal states. For a non-industrial sample, it is argued that

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[9] The economic theory of collective action is concerned with the provision and other collective consumption of public goods through the collaboration of two or more individuals, and the impact of externalities on group behaviour (related to Public Choice literature, see Coase, 1937, 1960 and Olson, 1965).

[10] The source of this problem so-called in the game theoretic framework a "tragedy of the commons" is that of moral hazard, wherein the unobservable behaviour of agents who have an incentive to violate trust induces their anti-social action. Since the outcome of the collective behaviour of all agents is observable, it is possible to devise a rule which penalises each agent by a sum exceeding the gain which any agent would realise by their independent anti-social action.

drivers for corruption are lack of service orientation in the public sector, weak democratic institutions and closed economy.

Despite a number of studies examining corruption at the local government level, the literature does not deal with the issue in a consistent manner or provides conclusive evidence. For instance, Wilson (1966) argues that one cause of the corruption in the US system is the need to exchange favours to overcome over-decentralised bottom-up system. On contrary, Wade (1997) finds the over-centralised top-down structure system in India to be largely responsible for corruption in the irrigation bureaucracy. In contrast, stronger communication and monitoring mechanisms in Korea is found to explain better performance relative to India.

Finally, regarding corruption, decentralisation and FDI, there are limited amount of studies that have examined the relationship between decentralisation and FDI, the role corruption in this relationship received limited attention with an exception of a few papers. Canfei (2006) used a panel FDI flow data on China at the provincial level from 1995 to 2002 and found that provinces with more authority in economic matters have larger FDI inflows. Central Government's interference in economic activities was found to discourage foreign investment.

The second paper is by Kessing et al. (2007) who consider the effects of various decentralisation variables on the countries' levels of inward FDI and find a strong support for the existence of the negative side of decentralisation. This 'negative side of decentralisation' is argued to be rooted in the increased number of government tiers is found to have a negative effect on FDI[11]. In other words, if governments are corrupt, there are more tiers of government with independent rights to regulate the same firms, and the greater likelihood of corruption within a country. The argument behind this is could be that if governments are corrupt, then the more tiers of government there are with independent rights to regulate the same firms, the greater is likely to be the burden of corruption.

From the studies reviewed above, a number of conclusions can be drawn about the relationship between FDI, corruption and decentralisation that can be helpful for our analysis. The main conclusion is the following. The literature review shows that the impact of corruption on FDI and decentralisation; as well as the impact of decentralisation on both FDI and corruption remains unclear or inconclusive. To address this limitation Chapter 7 provides a more comprehensive assessment of the relationship between corruption and FDI.

[11] On the other hand, fiscal decentralisation (e.g., expenditure and revenue decentralisation) is found to have a positive effect on FDI; the differential effect of expenditure and revenue decentralisation is also found to affect FDI positively.

## 2.3 Determinants of FDI Inflows into Russia

Progress in economic transition has a major influence on the ability of Russia to attract inflows of FDI (Jones et al., 2000). There are a very small number of studies that examine the determinants of FDI in Russia however. In particular, studies based on surveys, suggest human capital and the availability of natural resources to attract FDI in Russia (e.g., McCarthy and Puffer, 1997). Hirvensalo and Lausala (2001) investigate the development of FDI in the Russia's Barents Region and list a number of factors that can decrease the attractiveness of a region for potential investors, namely geographical and climatic conditions, poorly developed infrastructure, long distance to markets and crime factors. Amongst key advantages are natural resources endowment and a relatively well-trained and low-cost labour.

Additionally, a number of empirical studies found public capital expenditure on infrastructure to be critically important in location decision of foreign investors in Russia as well as in other developed and developing countries (see Coughlin et al., 1991; Dunning, 1993; Chen, 1996; McCarthy and Puffer, 1997; Glickman and Woodward, 1998; Wei et al., 1999; Broadman and Recanatini, 2002).

Broadman and Recanatini (2002) use data on FDI inflows for most of the regions in Russia and find market size, infrastructure development, level of domestic investment, policy/institutional factors and agglomeration effects to explain much of the observed variation of FDI inflows across Russia's regions in 1995-2000. Although this research does take into account some investment climate and/or environment factors that were noted to affect the FDI distribution within Russia, the assessment of the impact of political economy factors on FDI distribution has been inconclusive or limited.

Ahrend (2002), based on a survey of 50 European enterprises that conducted business in Russia, finds a remarkable difference between companies that located in Moscow (that said that the only decisive factor was location in a large market) and those that located in other regions (that said that the presence of special factors of production or of a partner's company were the main motives). Although MNEs equally named an existing investment in a region as an important motive to locate further investment projects there, neither tax breaks nor recommendations by business climate surveys or other companies seemed to have played an important role in enterprises' intra-Russian location decision.

Iwasaki and Suganuma (2005) develop a model of the regional distribution of FDI in Russia based on panel data for 1996-2003 and find that resource endowments, market factors and social development factors had a high significance and explanatory power. Ledyaeva and Linden (2006)

develop a gravity model of inward FDI across Russia's regions controlling for agglomeration effect, natural resource abundance, skilled labour abundance, capital city advantages variables, and cultural closeness and common language. FDI inflow is measured as a number of MNEs of a particular source country in a particular Russian region. Results imply that only factors such as GRP distance between the regions and agglomeration effect matter.

Ledyaeva (2009) using a cross-section and panel data studies the determinants of FDI inflows into Russian regions before and after 1998 financial crisis and finds market size, the presence of large cities and sea ports, oil and gas availability, and political and legislative risks to have significant and positive impact on FDI distribution within Russia. After 1998, the importance of big cities, the Sakhalin region, natural resources and legislation risk are found to increase, while the importance of political risk and port availability to decrease.

"Greenfield" investment is more dependent on local factor endowments. Therefore, location decisions may be constrained where firms are targeting raw-material extraction and refinery. Some types of investment are "knowledge-intensive" and may be attracted towards locations possessing specific skilled labour supplies; whereas others are "transport-intensive" and are highly dependent on good national and international transport and communications infrastructure. Between early 90s and 2005, there were a number of different types of "special economic zones" and "free economic zones" developed in Russia, which allowed the authority to establish special arrangements for taxation or customs duties within a particular geographic area. However, many of the zones are not actually functioning. The Special Economic Zone (SEZ) of the Kaliningrad region receives exemptions on import duties, with some quantitative restrictions. The SEZ of Nakhodka features tax benefits and simplified procedures for import and export operations. The International Business Centre of Ingushetiya and the Free Trade Zone of Sheremetyevo also receive certain benefits.

It is common for FDI to be initially concentrated in the capital-city region, due to greater national market access, the most advanced infrastructure, connectivity with headquarters abroad and lower risks of entry. As MNEs acquire more knowledge about the host country and the comparative advantages of its regions, FDI becomes dispersed more widely. When compared to other capital cities in transition economies such as Warsaw or Beijing, Moscow has a much higher per capita rate of FDI.

St. Petersburg, the second 'capital city' of Russia, has also received relatively high inflows of FDI. St. Petersburg is also the closest major city to the European Union, and has received high levels of investment from neighbouring Finland and Sweden. The Sakhalinskaya Oblast in the Far East economic region has also received relatively high levels of FDI. The Federal Laws "On

Agreements of Product Partitioning" and "On Deposits Proposed for Development on Conditions of Product Partitioning" were adopted in 1995 and 1997 respectively. These allowed the development of large-scale foreign investment projects in oil and gas extraction on the Island of Sakhalin. Investment in the Tyumen region and Republic of Komi is also concentrated in the energy industry. Sakhalin is also a SEZ and a desirable location because of its proximity to Japan. The ethnic republics of Tatarstan, Bashkortostan and Sakha (Yakutiya) have an exceptionally high degree of autonomy, superseding federal and even constitutional law in some cases. An attempt to make all power-sharing treaties consistent with the constitutional and other federal laws in 1997 was not successful. In 1994, the President of the Republic of Tatarstan issued a decree to exempt major investors in the republic from certain tax payments in order to attract higher levels of FDI. The relatively high level of FDI drawn into the region suggests that this has been successful.

Irkutskaya Oblast is unusual in this respect as exports account for a relatively high share of industrial output (about 50%). Studies have shown that investors are attracted to indicators of openness (for example, Wei et al., 2000). The high level of exports from Irkutsk indicates highly developed infrastructure and access to outside markets; and could explain a large FDI stock accumulated in the region within last 10 years. Kransnodarskiy Krai also has access to outside markets through ports of Sochi, Novorosiysk and Tuapse on the Black Sea.

The distribution of FDI across Russian regions can be dependent on the inherited industrial structure of the local economy as hyper concentration of industries in particular regions under the Soviet system left the regions imbalanced. The viability of inherited production capacities varies greatly across regions. In the initial transition period, regions dominated by heavy industry performed worst, while resource regions seemed to perform best in attracting FDI: the resource-rich areas outside of Moscow attracted the highest levels of inward FDI in 1995 (Goskomstat, 2005).

A collection of survey studies and econometric work (see the review above) has identified a number of factors that have helped determine the distribution of FDI across countries and industrial sectors. These include market size, relative costs, workforce skills, access to natural resources, the speed and method of privatisation, and barriers to trade. Political and economic risk and exposure to institutional failure are especially important (FIAC, 2006).

Risk is probably is a single most important factor that has kept FDI in Russia low. Due to the long-term nature of FDI, investors want to be reasonably confident that the location of investment is economically and politically sound. There are a number of factors that affect

investors' perceptions of the level of risk. Uncertainty regarding the rule of law for instance has been the key in Russia (FIAC, 2006).

The current legislative system in Russia lacks transparency and consistency, which makes investments riskier. A number of legal references provided by the government are relatively vague and are subject to a different interpretation. As any benefits to foreign investors that are not clearly stated prior to the actual outlay of funds cannot be used in the investment decision, these benefits, therefore, cannot be seen as an incentive to investment, but merely as a distortion between the treatment of domestic and foreign investors.

Investment risk can also be radically increased by corruption, or the perception of corruption, at the government level; by widespread crime; and by lack of adequate corporate governance. FDI is highly sensitive to investors' perceptions of risk (www.unctad.org). As a non-transparent legal environment can increase the risk faced by investors, it can hinder foreign investment. Moreover, risk perceptions are also highly sensitive to political events, and the timing of FDI in Russia can be closely tied to political events as a result.

Corporate governance is vital for the successful introduction of competitive market forces; hence it is very important that these issues are addressed at the government level: corporate governance in Russia is considered to be one of the lowest in the transition economies (see for instance, www.unctad.org), and firms have strong uncertainty about the security of their property and contract rights (FIAC, 2006).

Therefore, the analysis presented above shows that when choosing a particular region within Russia, a potential investor would weight a number of relative of economic incentives to investment (among other) against the disincentives for such investment. The incentives would include market size, labour force, geography, low transaction costs (in term of transportation and information), infrastructure facilities, industrial structure, climate, natural resources, the existence of 'big' cities (including Moscow city) or urbanisation among others. Finally, political risks, and corruption in particular, are major political factors that can be seen as a disincentive to foreign investment.

To sum up, based on the findings of reviewed theoretical and empirical IB literature on FDI determinants and FDI locational factors within Russia, the following list of variables important for foreign direct investors investing in (within) Russia can be specified. Generally, FDI can be seen to be attracted by long-term economic opportunities that exist in Russia. Russia's relative lack of success in attracting FDI however can be attributed to Russia's national infrastructure factors and government policies (Jones et al., 2000) which is consistent with Dunning's (1993) model.

## 2.4 Conclusions

Theoretical and empirical literature reviewed in this chapter suggests a general list of potential determinants of FDI distribution that is applicable to (i) developed and developing/transition countries and (ii) at inter- and intra-country level. Although there are a considerable number of empirical studies that have focused on the determinants of FDI spatial distribution, this literature has focused mostly on the inter-country distribution of FDI and has not sufficiently analysed the distribution of FDI in an intra-country context. There is limited literature that assesses the regional distribution of FDI in transition economies in general and in Russia in particular (with the remarkable exceptions of Broadman and Recanatini, 2002, Iwasaki and Sagunuma, 2005, Ledyaeva, 2009, and Ledyaeva and Linden, 2006 reviewed in this chapter). Literature also lacks of studies that encompass both economic and political variables as determinants of FDI. That is, limited literature that empirically tests the impact of corruption (among other, economic, variables) on FDI distribution exists to date. To address this limitation we integrate a number of traditional and 'non-traditional' economic variables along with a key political economy variable (i.e., corruption) into a standard theory of FDI. Following chapters, after examining economic trends of FDI distribution within Russia and setting an institutional framework in which study takes place, present the results of such investigation.

# Chapter 3:

# Investing in Russia – Economic Background

## 3.1 Introduction

The aim of this chapter is to provide an overview of the economic context within which to position our study. The chapter describes Russian economic framework and FDI trends, and focuses on the importance of FDI for Russia within regional economic context. Throughout the chapter, we present a descriptive analysis of the inward FDI inflows (growth) trends in Russia, the analysis of economic determinants on FDI demand, the contribution of FDI to Russia, and the characteristics of inward FDI flows to Russia over the period of just less than 10 years from 1995 to 2004. The chapter is organised as follows. Section 3.2 provides an overview of the economic environment in which the empirical work takes place. Section 3.3 discusses the recent trends of FDI in Russia. Conclusions are presented in section 3.4

## 3.2 Economic Background

Russia is a vast country stretching across Europe and Asia, possessing spectacular wealth in the form of exploitable natural resources, technology, a large, skilled workforce and nearly 145 million consumers whose needs are endless (this number however is decreasing annually, see Figure 3.1).

**Figure 3.1 Population of Russia (1995-2006)**


*Note: data shown are in 000 people*
*Source: Goskomstat RF, 2006*

Russia has the land area of 17 million square km and large population[12] representing a very large consumer market. Although in 1990s Russia experienced a decline in GDP and experienced the financial crises of 1998, in year 2004 it achieved a remarkable growth reaching 7.2% (Table 3.1).

**Table 3.1 Real GDP Growth in Russia (1995-2004)**



*Source: www.oecd.org/russia*

Since 1991 Russia's main goal has been to adopt the market economy promoting local and foreign investment and to integrate into the world economy. In a matter of a just few years, the bulk of the assets of former state enterprises has been privatised in Russia (although in many cases with a lack of transparency and fairness that has created an unfortunate legacy); and hundreds of thousands of new small and medium-sized private enterprises, which have formed the backbone of its economy, have been also spawned.

By year 2004 Russian Federation (RF) consisted of 89[13] administrative units[14] or sub-national regions or "subjects of the Federation" (further, regions), including 48 Oblasts, 21 Republics, 7

[12] Although diminishing from 149 million in 1995 to 145 million at the end of 2004.

[13] After two mergers in 2005, the number of regions has been downsized from 89 to 83; hence as of 1 of March, 2009, Russia consists of 83 regions.

[14] Each of the RF subjects belongs to one of the following categories:

- 21 Republics nominally autonomous, each has its own constitution, president and parliament. These are represented by the federal government in international affairs and meant to be home to a specific ethnic minority. These are: Adygeya, Altai, Bashkortostan, Buryatia, Dagestan, Ingushetia, Kabardino-Balkarskaya, Kalmykia, Karachayevo-Cherkessia, Karelia, Komi, Mari El, Mordovia, Sakha (Yakutia), North Ossetia, Tatarstan, Tuva, Udmurtia, Khakasia, Chechnya, Chuvashia.
- 7 Krais are essentially the same as oblasts; the title *krai* is historic, originally given because they were ones considered frontier regions. These are: Altaiskiy, Krasnodarskiy, Krasnoyarskiy, Permskiy, Stavropolskiy, Khabarovskiy, Primorskiy.
- 48 Oblasts are most common, regular administrative units with federally appointed governor and locally elected legislature. Commonly named after the oblast center – the largest city in the oblast, its administrative center. These are: Amurskaya, Arkhangelskaya, Astrakhanskaya, Belgorodskaya, Bryanskaya, Vladimirskaya, Volgogradskaya, Vologodskaya, Voronezhskaya, Ivanovskaya, Irkutskaya, Kaliningradskaya, Kaluzhskaya, Kamchatskaya, Kemerovskaya, Kirovskaya, Kostromskaya, Kurganskaya, Kurskaya, Leningradskaya, Lipetskaya, Magadanskaya, Moscowskaya, Murmanskaya, Nizhninovgorodskaya, Novgorodskaya, Novosibirskaya, Omskaya, Orenburzhskaya, Orlovskaya, Penzenskaya, Permskaya, Pskovskaya, Rostovskaya, Ryazanskaya, Samarskaya, Saratovskaya, Sakhalinskaya, Sverdlovskaya, Smolenskaya, Tambovskaya, Tverskaya, Tomskaya, Tulskaya, Tyumenskaya, Ulyanovskaya, Chelyabinskaya, Chitinskaya, Yaroslavskaya.

Krais, 2 Federal Cities (Moscow and St Petersburg[15]), 10 Autonomous Okrugs and 1 Autonomous Oblast, which are sub-units within larger oblasts but have independent budgets (see Figure 3.2).

**Figure 3.2 Map of the Russian Federation**


*Source: www.world-geographics.com*

Although these subjects are of equal federal rights in the sense that they have equal representation in the Federal Council (upper house of the Russian parliament, *Duma*), they differ in the degree of autonomy they enjoy. Autonomous Okrugs (AOs), for instance, while federal subjects in their own right are at the same time considered to be administrative divisions of other federal subjects (with Chukotskiy AO being the only exception).

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- 2 Federal Cities (cities under direct jurisdiction of the Federation major cities that function as separate regions. Federal cities of Moscow and St. Petersburg.
- 1 Jewish Autonomous Oblast.
- 10 Autonomous Okrugs are more autonomous than oblasts but less than republics; usually with substantial or predominant ethnic minority. These are: Agino-Buryatskiy, Komi-Permyatskiy, Koryakskiy, Nenetskiy, Taimyrskiy (Dolgano-Nenetskiy), Ust-Ordynsko-Buryatskiy, Khanty-Mansiyskiy, Chukotskiy, Evenkskiy, Yamalo-Nenetskiy.

[15] These are two largest cities in the country of which Moscow is the capital (St Petersburg was the capital of Russia from the times of Peter the Great to the beginning of the Soviet Union and often nowadays called the second capital of the country).

The federal subjects are considered to be the second level of federal division, being subject to the federal laws (first level) and are grouped into seven federal districts[16], each administered by an envoy appointed by the President of Russia. The federal districts are a level of administration for the convenience of the federal government of the RF. They are *not* the constituent units of Russia (which are the federal subjects), but are mentioned more than the federal subjects in news and government. Each district includes several federal subjects and each federal district has a presidential envoy (whose official title is Plenipotentiary Representative).

The official task of the Plenipotentiary Representative is simply to oversee the work of federal agencies in the regions, although in practice this oversight is extensive and of considerable consequence. Unlike the federal subjects, the federal districts are not a sub-national level of government, but are a level of administration of the federal government. Federal districts' envoys serve as liaisons between the federal subjects and the federal government and are primarily responsible for overseeing the compliance of the federal subjects through the federal laws. The program to merge some of the federal subjects into larger territories began in December 2005; however since March 2009 no new mergers have been planned.

For economic and statistical purposes the federal subjects are grouped into twelve economic regions[17]. Economic regions and their constituents share common economic trends are then grouped into economic zones and micro-zones[18]. This division into economic regions is different from the division into federal districts – the former is done solely for economic and statistical purposes, while the latter is purely administrative.

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[16] In 2000, a decree by the President of Russia created seven new administrative macro-regions in the federal hierarchy to help enforce federal laws. These are: Central, Southern, North-Western, Far-eastern, Siberian, Urals and Volga district.

[17] "Общероссийский классификатор экономических регионов" (ОК 024-95) введённый 1 января 1997 г., в ред. Изменения № 05/2001. Секция II. Экономические районы (*Russian Classification of Economic Regions* (OK 024-95) of January 1, 1997 as amended by the Amendments #1/1998 through #5/2001. Section II. Economic Regions).

[18] Russia is divided into twelve economic regions. These are the twelve groups of administrative units sharing common economic and social goals and participation in development programs, relatively similar economic conditions and potential, similar climatic, ecological, and geological conditions, similar methods of technical inspection of new construction, similar methods of conducting customs oversight, overall similar living conditions of the population. No federal subject can belong to more than one economic region. Economic regions are also grouped into economic zones (also called "macro-zones"). An economic region or its parts can belong to more than one economic zone. Establishment and abolishment of economic regions and economic zones or any changes in their composition are decided upon by the federal government of Russia. Economic Regions are the following: Central, Central Black Earth, East Siberian, Far Siberian, Northern, Northern Caucasian, North Western, Volga, Urals, Volga-Vyatskiy, West Siberian, and Kaliningrad.

Russia's regions are diverse in economic conditions, land mass, ethnic composition, and language. There are also significant religious and historic differences across the regions. In 2004 the majority (97%) of native Russians lived in Vologodskaya Oblast and the minority (1.2%) – in Ingushetia (Table 3.2, Appendix 3). Many of the ethnic republics are relatively poor and located on the periphery of the country having to bear higher transportation costs to reach the country's main markets (e.g., Moscow City, Moscowskaya Oblast).

Undoubtedly, an unevenness of the distribution of land and population among Russia's regions is evident. For instance, the East-Siberia Region and the Far-Eastern Region combined represent over 60% of the territory of the country but only over 11% of the population. By contrast, the Central Region represents 2.8% of the area of the country but 20% of the population. In terms of population density, there is a noticeable disparity. That is, in 2004 Evenskiy AO had a population of 20 people, whilst Moscow had 9461 people. There is average of 222 people per square kilometre living in Russia (Table 3.3, Appendix 3).

Another noteworthy factor specific to Russia is multiple time zones and varying geographical distance between the federal capital and the regions. The fact that there are 11 time zones in Russia means that many regions are not able to communicate with Moscow during regular workday hours. The average distance for the entire RF between regional capitals and Moscow is 2738 km and the average time difference is 2 hours. The average distance between the capitals of the regions in the Far-Eastern Region and Moscow city, for instance, is 9355 km and the average time difference is 8 hours (Table 3.4, Appendix 3).

In terms of economic disparities, Russia's regions also show very significant differences in industrial development and natural resource endowment. This has led to extremely high differences in Gross Regional Product (GRP) and even more extreme differences in GRP per capita across Russia's regions (Figure 3.3)[19]. For instance in 1998, the difference between the highest per capita GRP (Tyumenskaya Oblast that with its Khanty-Mansiyskiy AO has the largest deposit of oil and gas in Russia) and the lowest one (Ingushetia Republic) was 18 fold.

Other regions with high per capita GRP are Moscow City and mineral resource rich Sakha (Yakutia), whilst other extremely poor regions are neighbours of the Ingushetia Republic in the North-Caucasus Region (e.g., Dagestan or other ethnic republics on the periphery such as Tuva). Moreover, the differences between the maximum and minimum values of regional personal income per capita increased from being 3.8 fold in 1985 to being 18.5 in 1999, which almost 500% increase in this measure of economic regional disparities.

[19] The transition period did little to erase such disparities.

**Figure 3.3 Gross Domestic Products per Capita (1995-2004)**


*Note: GRP is in RU Rub mln; GDP per capita is deflated by CPI*
*Source: Goskomstat (2006)*

These are caused by a significant difference in the cost of living across Russia's regions. For example, in 1999, the cost of the minimum regional subsistence basket was 470% higher in Chukotskiy AO than in Ulyanovskaya Oblast. The main cause of such significant difference is the fact that economic growth has been increasingly concentrated in fewer regions. On the one hand, some areas of the country which in the past depended more heavily on Moscow for transfers and subsidies (e.g., the Far East and the Northern Region) have suffered more significantly from budget cuts. On the other hand, changes in revenue sharing arrangements between the centre and the regions allowed more of the regional income to stay in the resource-rich regions.

The above disparities can be seen as a result of economic mismanagement during transition period that followed after the collapse of the Soviet Union. Then, many provinces of the RF faced drastic decreases in industrial output. After liberalisation and opening of the borders, provinces specialising in extracted industries benefited from expanded export markets and high global prices on the exporting commodities. The administrative decentralisation of the President Yeltsin years (see Chapter 4) also allowed the richer regions to invest in their profitable industries while withdrawing subsidies from the poorer regions.

Although reforms introduced by President Putin increased centralisation and wealth redistribution (through increased financial aid to regions), regional divergence has not been minimised. Economic stagnation in poorer regions has caused high unemployment, low incomes and further deterioration of infrastructure. Investment is largely concentrated in richer urban areas and those reliant on natural resources. Noticeable disparities exist between all 89 Russian regions in terms of industrial output, population and incomes. In 2005, Moscow alone contributed RU Rub 4

billion – over 20% of total GDP. In the first half of 2005, 37 regions experienced industrial growth of less than 3% year-on-year.

The 2002 census demonstrated large disparities between gross incomes per habitant in various Russian regions. For example, the gap between one of the poorest regions (Ust-Ordynsko-Buryatskiy AO) and the capital city (Moscow) was at a proportion of 1 to 12. Although in 2006 the unemployment rate at the national level was 7.3%, in some regions the rate of rural unemployment reached between 22.0-52.7%. As people in Siberia and eastern provinces were faced with economic stagnation and low incomes, they tended to move South and West.

As a result of internal migration between 1989 and 2002, Magadanskaya oblast and Chukotka depleted 53% and 67% of their populations respectively. European Russia – West of the Urals – already contains over 75% of the total population, although it accounts for 25% of the country's territory.

Moreover, expanding sales beyond Moscow could be difficult because of underdeveloped transport and communication infrastructure but also as incomes and tastes outside of the urban hubs might be very different. Between 2001 and 2006, extreme regional disparities in Russia mean that investment might be profitable in certain areas only. Annual disposable incomes and consumer expenditure have grown significantly in Russia. In 2006, consumption accounted for 48.7% of GDP and Russia is estimated to be the world's twelfth largest retail market. However, economic growth is only concentrated in a few regions only, (e.g., Moscow together with the surrounding region, Khanty-Mansiyskiy AO, St Petersburg, and Krasnoyarskiy Krai).

Well developed areas such as Moscow offer firms large consumer markets and a good source of human capital. Populations of the poorer areas however often lack skilled labour and the purchasing power necessary to attract investment. As a result, with better prospects in other parts of Russia, more people are moving towards the Western and Southern areas of the country. The depressed provinces are therefore becoming more depopulated accentuated by ageing and high mortality.

In 2006, the growing death rate of 16.2 per 1,000 inhabitants was especially worrying, as this affect working age men thus weakening human capital. With increased internal migration, housing problems, crime and poverty are becoming a concern in the designated areas. Higher traffic puts transport infrastructure under strain which might increase delivery times and incur additional costs for businesses. On the other hand, growing urbanisation is responsible for increasing consumer expenditure. With higher incomes and eager to follow urban trends, newcomers are actively contributing to increased retail sales (Figure 3.4).

**Figure 3.4 Real Annual Disposable Income and Consumer Expenditure: 2001-2006 (RU Rub mln in 2001 prices)**


*Source: Euromonitor International from national statistical offices, www.oecd.org*

## 3.3 Trends and Distribution of FDI in Russia

According to UNCTAD, Russia was ranked 97th out of 140 economies in 2003 in terms of inward FDI performance and 27th in terms of inward FDI potential (www.unctad.org). In 2004, the inflow of FDI to Russia was almost US$ 12 billion, which can be compared to US$ 60 billion to China and the US$ 6 billion to Poland. The accumulated investment stock in these countries in 2004 was US$ 98 billion in Russia (or 17% of GDP in 2004), $US 245 billion in China (15% of GDP) and US$ 61 billion in Poland (25% of GDP).

The World Bank (2008) argues that "improvements in the expectations of investors" is one of the key factors behind the strong growth in Russia in 2005, which is a result of a series of measures introduced to reduce the uncertainty in the investment climate. According to FIAC (2006), both current and potential foreign investors are most attracted to Russia because of the size of the market (90%), the country's sustained economic growth (82%), the high quality and low cost of human resources (57%), and overall political (48%) and macroeconomic (46%) stability.

At the same time, investors continue to urge the Russian government to fight corruption and red tape. It is also argued that the biggest disincentives to investment in Russia are administrative barriers (84%), corruption (78%), inadequate and inconsistent legislation (71%), and selective interpretation and application of the law (67%). Figure 3.5 illustrates that between 1995 and 2004 the distribution of the volume of FDI inflows per capita clearly shows a significant increase in inward FDI especially after the 1998. However, as the opportunities for investment in Russia are immense the existing level of FDI into Russian economy remains far short of its huge

requirements (see also Table 3.5 in Appendix 3 for the descriptive statistics of distribution of FDI inflows, FDI inflows per capita and accumulated FDI stocks by region and by year).

**Figure 3.5 Distributions of FDI Inflows per Capita in Russia (1995-2004)**


*Note: Figures are in US$ mln; deflated by CPI*
*Source: Goskomstat RF (2005)*

Furthermore, the analysis of the Russian economic situation shows that the low levels of FDI are not due to the lack of opportunities or potential, but mainly to its difficult climate for private business and investment. Hence, it might be argued that a lack of reliable information on regional opportunities together with Russia's complex business environment and various political 'surprises' has kept many potential investors outside of the country.

As indicated in Figure 3.6, presenting time-series for FDI inflows within Russia's seven Federal districts, Moscow city and Sakhalin (two areas that seem to attract the most of FDI inflows between 1995 and 2004), since 1998 FDI inflows to Russia has increased sufficiently. However, just as the Russian economy as a whole is dominated by Moscow and the energy-rich regions (such as Sakhalin), so are the foreign investments: Moscow has attracted about one third of all the FDI flowing into Russia.

The figure is even larger when including the FDI destined for the Moscow market that has spilled over into the surrounding oblast. Also, St Petersburg and the surrounding Leningradskaya oblast have attracted sizable FDI. A number of energy rich regions (such as Sakhalin and Tyumen) and regions with strategic locations such as ports on the Black, North, Pacific or Baltic seas (these are Krasnodarskiy Krai, Arkhangelskaya oblast, Sakhalin, Leningradskaya oblast,) have also managed to attract relatively large amounts of FDI.

**Figure 3.6 Distributions of FDI Inflows by Federal Districts (1995-2004)**


*Note: Figures are in US$ mln; deflated by CPI*
*Source: Goskomstat (2005)*

Apart from these obviously attractive regions, there are a few regions that stand out in terms of attracting FDI. Sverdlovskaya and Samarskaya oblasts seem to have attracted significant foreign investment based on their well developed industrial structure. Sverdlovskaya oblast has steel, chemicals and machinery production and Samara is a hub for the automotive industry. These regions have attracted the vast majority of the foreign investments in Russia. The top five regions alone have attracted some 70% of the FDI stock. There is clearly potential for other regions to attract foreign investors, not the least in industries such as forestry, but that requires an improved investment climate and improved infrastructure.

Data on the cumulative sum of 10 years of inward FDI presented in Table 3.5 (Appendix 3) also illustrate a significant gap in the accumulation of FDI inflows among the Federal districts. This gap becomes even more apparent when FDI inflows are adjusted for population or geographical size: while the coastal regions in Russia between 1995 and 2004 attracted over 9 times as much FDI as the inland regions in aggregate terms, they attracted over 12 times as much FDI on a per capita basis, and over 70 times as much FDI per 1000 square meters of land area.

As shown in Table 3.6, the FDI inflows into manufacturing have increased dramatically by the end of 2004 as compared to the end of 1995: FDI into the manufacturing sector has been the largest and the most important recipient of FDI in Russia (34.5%) following by a fuel industry (13.4%) and trade and catering (10.8%).

**Table 3.6 FDI Inflows by Sector (1995-2004)**


*Source:* ***Investicii v Rosii (2005)***

In some cases, FDI in Russia has been related to gas projects (e.g., to oil-gas investments in continental shelf projects Sakhalinskaya Oblast, and in Krasnodarskiy Krai to the "Blue Line" – gas pipe line being built to transfer gas from Russia to Turkey). In some yet other cases however foreign investments have been more diversified (e.g., investments in Novosibirskaya Oblast related to "Coca-Cola" and other food processing enterprises; in chemical industry in Samarskaya Oblast as well as food processing, petroleum refining).

Nevertheless, many of those investment projects that do take place within Russia are also unusually small for the organisations that are operating them. For example, General Motors, investment in the production of the Chevrolet Blazer, in Tatarstan, is a quarter share of US$ 250 mln with the local Tartar government and the Russian government providing the rest of the investment. For an organisation with turnover over US$ 170 billion this seems to be a small commitment, but is characteristic of current inflows of FDI into Russian economy as a whole.

The long-term nature of FDI means that it is less liquid than other forms of foreign investment, and therefore responded less severely to the financial crisis. In part, the distribution of investment across the transition economies may reflect geography. Central Europe's proximity to Western markets and availability of a relatively high skill, but low cost labour force have led to inward investment by many smaller and medium-sized companies, especially from neighbouring countries such as Germany, Austria and Italy.

Large strategic investments have also been made throughout the region by major MNEs from more distant economies such as the US and Korea. Germany led investment into Russia, but gradually the US took leadership. The most important sources of FDI in Russia in 2002 were Germany (20.2%), Cyprus (11.8%) and the UK (11.5%). In 2003, these countries-investors were the same: the UK (15.5%), Germany (14.5%) and Cyprus (15.1%). In 2004, however, Luxemburg took the leading place (20.8%), followed by the UK (17.2%) and Cyprus (13.5%). Cyprus is a special case, as the inflows of FDI are largely reinvestments of capital withdrawn from Russia in the early years of transition. This capital is held in the offshore tax zone of Cyprus.

## 3.4 Conclusions

Since 1995, Russia has experienced strong economic growth which has been underpinned by growing disposable incomes and consumer spending. In 2000-2006, Russia's real annual GDP growth averaged 6.8%. Strong regional discrepancies persist however with sophisticated consumers in cities such as Moscow on the one hand and depressed rural areas and former

industrial zones such as Magadanskaya oblast, Ingushetia Republic, Kamchatka and Irkutskaya oblast on the other. Extreme regional disparities in Russia mean that investment might be profitable in certain areas only. Since the beginning of the transition from planned to market economy, Russia has made great strides in opening its economy to FDI and switched its economy from planned to market. However, the opening of the economy to foreign investors has done little so far to reduce economic disparities across the regions. Since the role of FDI is important in Russia's growth, it is crucial to understand the characteristics of FDI in Russia so sound public policies regarding FDI can be recommended. To achieve this goal, it is important to examine the regional breakdown of inward FDI flows because income inequality across regions has been widening in Russia. If some of the poorer ('lagging behind') regions could attract more FDI, this would in theory lessen the divergence in economic performance between regions in Russia which would then minimise the likelihood of large-scale social unrest. In this respect, the Russian government has proactively initiated liberal policy that encourages economic development in the 'lagging behind' regions.

The FDI flows into Russia are heavily concentrated in relatively few regions that could mean that foreign investors continue to be sceptic over the progress of economic transition in Russia as a whole. Although there is a strikingly uneven distribution of FDI inflows across the regions, it does not nonetheless seem that recent trends in Russia's economic development are strong enough to explain the tendency towards polarisation of FDI. In this context, Russia can be seen as a special case among the transition countries: the geographical distribution of FDI does not show any clear pattern to the extent observed in China and CEECs. As it is apparent that within Russia there is a strikingly uneven distribution of FDI inflows across the regions, why this is the case needs to be analysed empirically. Arguments above lead to a conclusion that institutional factors need to be taken into account in such analysis. In the following chapters, we build and analyse a model of the determinants of FDI across Russian regions including institutional factors as regressors. Although the overall finding of differences in the levels of FDI across the regions raises several interesting research questions, the key question is what factors explain these differences? It can also be argued that different institutional frameworks found in different Russia's regions do not have a positive impact on the inflows of FDI as they create an opportunity for different degrees of inferences by the Russia's regional authorities[20]. As the

[20] Ahrend (2002), for instance, argues that the latter along with frequent regulatory changes, contradictory interpretation and discriminatory implementation of existing legislation all resulting from the unclear separation of powers among different levels of government are the issues foreign investors in Russia suffer from.

process of transition requires institutional change to create a legal framework in which domestic and foreign capital might grow (Jones et al., 2000), and since the polarised pattern of FDI distribution in Russia could be explained by a failure of the regional apparatus to develop the relationships with citizens and business organisation, we next turn our discussion to the institutional framework of the RF.

# CHAPTER 4:

# Investing in Russia – Institutional Background

## 4.1 Introduction

The aim of this chapter is to provide to the reader with understanding of the institutional context in which the study takes place. We are doing so by giving a description of the institutional framework of the RF. This discussion is important as it frames the context of the analysis presented in the thesis. In this chapter, we discuss the formal structure of the RF that explains the relationship between the federal government and the regions in the RF focusing on the interaction and shifting of real power balance between the regions of Russia and its federal centre. We also provide some evidence on interregional redistribution of funds by the federal government and interregional mobility of labour. We then discuss policy of the RF in the field of FDI attraction. The chapter is organised as follows. Section 4.2 analyses Russia's federal institutional structure. Section 4.3 outlines some important institutional changes in Russia since the beginning of the 90s. The discussion of the formal structure that guides the relations between the federal government and the regions of the RF is presented in section 4.4; whilst the range and distribution of regional authorities' activities – in section 4.5. Section 4.6 discusses the policy of the RF in the field of FDI attraction. Section 4.7 concludes.

## 4.2 Institutional Structure of the Russian Federation

The political development of modern Russia has been linked to Western European feudalism in the middle ages (Shlapentokh, 1996). As a feudal society, the power of institutions in modern Russia is arbitrary while many operate in some narrow private interest (Jones et al., 2000). As discussed in Chapter 3 (p. 33), Russia is a federation which consists of 89 regions of different status. The republics, for instance, are the national homelands to Russia's numerous minorities and have their own constitutions and elected presidents (since 1991).

Oblasts and Krais used to be run by elected governors until 2005 (a post-Yeltsin novelty introduced in 1997). They are patchy fiefdoms composed of Autonomous Okrugs (AOs) which are often populated with members of an ethnic minority, and are either very rich (e.g., Yamalo-Nenetskiy AO in Tyumen, with 53% of Russia' oil reserves) – or very poor and, thus, dependent on Federal handouts. In Russia it is often "Moscow proposes – but the governor disposes" – but decades of central planning and industrial policy encouraged capital accumulation in some regions while ignoring others, thus irreversibly eroding any sense of residual solidarity.

Dabla-Norris and Weber (2001) note that the ten wealthiest regions produce more than 40% of Russia's GDP (and contribute more than 50% of its tax revenues) – thus heavily subsidising their poorer 'brethren'. Output contracted by 90% in some regions – and only by 15% in others. Moscow receives more than 20% of all federal funds – with less than 7% of the population. In the Tuva republic – three quarters of the denizens are poor – compared to less than one fifth in Moscow. Moscow lavishes on each of its residents 30 times the amount per capita spent by the poorest region.

Bikalova (2001) argues that when the ex-Soviet union imploded the ratio of budgetary income per person between the richest and the poorest region was 11 to 6. It has since climbed to 30. All the regions were put in charge of implementing social policies as early as in 1994 – but only a few (the net "donors" to the federal budget, or food exporters to other regions) were granted taxing privileges. As Stoner-Weiss (1997) observes, not all regions performed equally well during the transition from centrally planned to market economy. Political figures in the (relatively) prosperous Nizhny-Novgorodskaya and Tyumenskaya oblasts emphasised stability and consensus (i.e., centralisation and co-operation).

Both the economic resources and the political levers in prosperous regions are in the hands of a few businessmen and "their" politicians however. In some regions, the 'movers and shakers' are oligarch-tycoons – but in others, businessmen formed enterprise associations, akin to special interest lobbying groups in the West. Inevitably such incestuous relationships promote corruption, impose conformity, inhibit market mechanisms, and foster detachment from the centre. But they also prevent internecine fighting and open, economically devastating, investor-deterring, conflicts. Economic policy in such parts of Russia tends to be coherent and efficiently implemented.

Corruption, by definition, is an opportunity available only to those in authority, and the suspicion that corruption take place at the highest levels of Russian politics and society is not reassuring for those seeking to achieve competitive advantage through inward FDI (Jones et al., 2000). The rise of the so-called "oligarchy" in modern Russia has become an additional feature of the economy with its importance reflected in its ability to exercise state power on its own behalf. Some reformist Russian politicians (e.g., Mr Chubais) have defended the oligarchs on the grounds that they offer the best prospects for the future of Russian capitalism, as they will inevitably seek to secure legitimacy as the best source of security for their gains (Freeland et al., 1997).

The oligarchy however represents an obstacle to the establishment of the rule of law in Russia because much of its affairs are conducted in a questionable manner, fitting well into the communist continuum, and into the kind of corruption that surrounded previous nomenclature of

the earlier presidency (Service, 1997). The business-political complexes reached their apex in 1992-1998 in Moscow, Samarskaya oblast, Tyumen, Sverdlovskaya oblast, Tatarstan, Permskaya, Nizhny-Novgorodskaya, Irkutskaya oblasts, Krasnoyarskiy Krai, and St. Petersburg. As a result, by early 1997, Moscow attracted over 50% of all FDI and domestic investment and St. Petersburg – another 10%.

The economic disparities between the regions grow in Russia: regional authorities throughout the vast Federation have attracted their own investors, passed their own laws (often in defiance of legislation by the centre), appointed their own officials, levied their own taxes (only a fraction of which reached Moscow), and provided or withheld their own public services (roads, security, housing, heating, healthcare, schools, and public transport). Yeltsin's reliance on local political bosses for his 1996 re-election only exacerbated this trend[21].

The regions took advantage of Yeltsin's frail condition to extract economic concessions: a bigger share of the tax pie, the right to purchase a portion of the raw materials mined in the region at "cost" (Sakha), the right to borrow independently (though the issuance of promissory notes was banned in 1997) and to spend "off-budget" – and even the right to issue Eurobonds (there were three such issues in 1997). Many regions cut red tape, introduced transparent bookkeeping, lured foreign investors with tax breaks, and liberalised land ownership.

Bikalova (2001) identifies three major problems in the fiscal relationship between centre and regions in the Yeltsin era as (1) the absence of an objective normative basis for allocating budget revenues, (2) the lack of interest shown by local and regional governments in developing their own revenues and cutting their expenditures, and (3) the federal government's practice of making transfer payments to federation members without taking account of the other state subsidies and grants they receive.

In August 1998, Russia experience a financial meltdown followed by Putin's disorientating ascendance. Although a redistribution of power in Moscow's favour seemed imminent, it was not to be until seven years later. At first, the recommendations of a committee, composed of representatives of the government, the Federation Council, and the Duma, were incorporated in a series of laws and in the 1999 budget, which re-defined the fiscal give and take between regions and centre. Federal taxes included the enterprise profit tax, the value-added tax, excise, the personal income tax (all of it returned to the regions), the minerals extraction tax, customs and

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[21] He lost his right to appoint governors in 1997 – and with it the last vestiges of ostensible central authority. In a humiliating – and well-publicised defeat – Yeltsin failed to sack the spectacularly sleazy and incompetent governor of Primorskiy Krai, Yevgeni Nazdratenko (later "persuaded" by Putin to resign his position and chair the State Fisheries Committee instead).

duties, and other "contributions". This legislation was further augmented in April-May 2001 (by the "Federalism Development Program 2001-2005").

The regions are still allowed to tax the property of organisations, sales, real estate, roads, transportation, and gambling enterprises, and regional license fees (all tax rates are set by the centre, though). Municipal taxes include the land tax, individual property, inheritance, and gift taxes, advertising tax, and license fees. The IMF notes that "more than 90% of sub-national revenues come from federal tax sharing. Revenues actually raised by regional and local governments account for less than 15% of their expenditures". (www.imf.org)

The federal government has also signed more than 200 special economic "contracts" with the richer, donor and exporting regions; it has done this despite the constitutional objections of the Ministry of Justice. Although this discriminating practice is now being phased out, it has not been replaced by any prioritised economic policies and preferences on the federal level, as the OECD has noted. (www.oecd.org )

One of Putin's first acts was to submit a package of laws to the State Duma in May 2000. The crux of the proposed legislation was to endow the President with the power to sack regional elected officials at will. The President can now fire a governor, said the final version, only if a court rules that the latter failed to incorporate federal legislation in regional laws, or if charged with serious criminal offenses. The wholesale dismissal of regional legislatures requires the approval of the State Duma. Some republics insisted at the time that even these truncated powers are excessive and Russia's Constitutional Court had to weigh their arguments in its pro-Putin ruling.

Putin then resorted to another strategy. In 2000, by decree, a bureaucratic layer between centre and regions was established. Seven administrative mega-regions whose role is to make sure that federal law are both adopted and enforced at the local level. The presidential envoys report back to the Kremlin but, otherwise, are fairly harmless – and useless. They did succeed, however, in forcing local elections upon the likes of Ingushetiya – and to organise all federal workers in regional federal collegiums, subordinated to the Kremlin.

Governors have sensed the changing winds and have acted to trample over democratic institutions in their regions. Thus, the Governor of Orenburzhskaya oblast has abolished the direct elections of mayors in his oblast. Russia's big business is moving in as well in an attempt to elect its own mayors (for instance, in Irkutskaya oblast).

Regional finances are in bad shape in Russia: only 40 out 89 regions managed, by February 2002, to pay their civil servants their December 2001 salaries (raised 89% - or 1.5% of GDP - by the benevolent president). Many regions had experienced worsening deficit. Salaries made three

quarters of regional budgets. The East-West Institute reported that arrears have increased 10% in January 2002 alone – to RU 33 Rub billion (or US$ 1 billion). The Finance Ministry considered declaring seven regions bankrupt. Yet another committee, headed by Deputy Head of the Presidential Administration, Dimitriy Kozak, was on the verge of establishing an external administration for insolvent regions.

Luckily for Russia, the regions are less difficult and restless now. The emphasis has shifted from vain posturing to economic survival and prosperity. The Moscow still attracts the bulk of Russian domestic and foreign investments. Sergei Kirienko, a former Prime Minister of Russia, and then the president's envoy to Volga region, attributed this gap, in a comment to Radio Free Europe, to non-harmonised business legislation (between centre and regions). Boris Nemtcov, a member of the Duma (and former Deputy Prime Minister) thinks that the problem is a "lack of democratic structures" – press freedom, civil society, and democratic government. Others attribute the deficient interest to a lack of safety and safe institutions, propagated by entrenched interest groups.

## 4.3 Institutional Changes in Earlier 1990s-mid 2000s

In the 1990s, the Russian central government was quite weak and regional elites had *de facto* even more decision-making autonomy than a broad federalist legal framework would suggest. Most importantly, regional governments were empowered to make frequent changes to the "rules of the game" (Freinkman et al., 1999). Although the 1993 Constitution explicitly defined the federal government's exclusive powers, it also described most key regional issues as the joint responsibility of the federal government and the regional administrative units.

Federalism and regionalism have been one of the main factors determining stability and effective development of Russia having brought into life new elements and networks, becoming themselves actors in the political game and thus creating system effects. The entire development of Russia starting from 1990 until today has been a complicated, controversial period of the transformation of a unitary state into a federation.

During 1990-1992 (until March), the ethnic formations within Russia (former autonomous republics and okrugs) sought to upgrade their political status, to win recognition as independent republics as a part of the RF. Movements for sovereignty were led by the Republics of Tatarstan, Bashkortostan, Yakutia and others. At the same time, the national idea (the idea of the restoration of ethnic states, language and culture) clearly prevailed.

It was by all means promoted by small-scale ethnic movements and was taken up by local and regional political elites which sought to retain power under new conditions or obtain power from the hands of former party nomenclature. In 1990-1992 there existed a real threat of ethnic separatism, a split of the unified country because the trend of decentralising power obviously dominated, and the power of the Centre was extremely unstable.

The Federation Treaty signed in March 1992 served to overcome the increasing ethnic separatism. It presented the maximum possible compromise of the central authorities and regional ruling elites at that moment and preserved the unity and territorial integrity of the RF within its historical borders. The Treaty failed to satisfy both unitarists and separatists although it played the positive role of dividing authority within the RF for the first time, albeit not fully. Two republics within Russia – Tatarstan and Chechnya – did not sign the Federation Treaty in March 1992, having seriously challenged the territorial integrity of Russia.

They proclaimed themselves fully independent states. Chechnya's location on the border worsened the situation by presenting the possibility of real recession. In 1992 neither republic suggested any formulas for co-existence with the unified federation. The federal authorities did not recognise independence of Tatarstan and Chechnya and instead considered them inseparable parts of a unified Russia.

The period after the Federation Treaty had been signed only partially eased the separatist trends in Russia. A number of the republics signed the Treaty, but ensured the legal priority of their republican constitutions on their territory. This process affected not only the republics, but also other administrative territories in the RF who sought the upgrading of their status and the recognition of their equal rights with the republics. Constitutions of their own (the Statutes) began to appear, and there were even attempts to proclaim independent states (e.g., Ural republics and Far-Eastern republic).

In December 1993, the Constitution of the RF was adopted. The Federation Treaty, or, more precisely, its main provision, became a part of the Constitution. In line with the Treaty, the Constitution secures the composition of the federation. Accordingly, two types of subjects have been identified – nation-state formations, i.e., the members of the federation which have the attributes of independent states (these are all republics) and administrative territorial formations (krais, oblasts, cities such as Moscow City and St Petersburg).

Now all units (subjects) of the RF are usually referred to as "regions" in academic works and political practice. The dominating idea at this stage was signing treaties between a certain unit of the RF and Moscow. In reality, every unit that possessed some bargaining power managed to sign such a separate treaty – by the end of 1999 the total number of them had been 45 (out of 89

units). So, the net result since the mid 90s had been an asymmetrical federal system with substantial differences in powers across different regions. Starting from the fall of 1999, the overall balance has been in favour of centralisation[22]. The reason for that have been the consolidation of the elites in the Centre and the build-up of political and financial resources controlled by those elites.

Russian federalism is extremely uneven in terms of geographical space and its uneven nature is only partially accounted for by the objective differences among regions, resource capacities, fiscal subsidisation, etc. It is largely determined by traditions, traditional practices and personality factors. Some regions (like Tatarstan which has a one-channel tax system, own courts, citizenship and Constitution stipulating the "associated" status of the Republic within Russia) have been developing their relations with Russia on a confederate basis[23].

The position of other regions, like the majority of AOs, is quite similar to that of regions in a unitary state. The overwhelming majority of oblasts and krais have developed their relations with the Centre on the federal basis with a varying degree of rigidity. For instance, Moscow City occupies a very special place. Being the last to sign a bilateral agreement on the delineation of authority with the federal Centre, Moscow still has a status that is only slightly different from that of Tatarstan in terms of "citizenship"[24], control over law-enforcing agencies and courts (here the situation is changing fast), lack of elected heads of local self-government, special privatisation arrangements, etc.

Although worker mobility is central to restructuring of formerly planned economies, lack of data made studying labour mobility in transition economies and in Russia in particular is rather difficult. A survey by Filer et al. (2001) suggests that geographical mobility has been low in all transition countries because of administrative barriers and underdevelopment of housing markets. Boeri and Flinn (1999) explained lack of worker mobility in transition economies by low monetary returns to job changes and by market segmentation of job offers. A survey by Svejnar (1999) concludes that while most labour markets in transition countries have been rather flexible, the geographical mobility was lower than expected given huge and often growing regional differentials.

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[22] In the 80s many western theorists of development argued for centralising economic policy-making in developing states to remove it from the politicised influence of local and regional interests (as well as national lobbies).

[23] Chechnya, which has not recognised the RF jurisdiction and, until recently, been *de facto* independent of Russia, is a special case.

[24] Russian *propiska* or domicile registration restrictions.

While the low level of geographical labour mobility in Russia is an observed phenomenon, there has been almost no direct evidence in the literature. First, it is hard to measure mobility since there are large informal flows. Second, it is hard to compare interregional mobility in Russia and Central European countries simply because of different size of regions. The indirect measures suggest that internal migration in Russia is low. The interregional job flows in Russia are much lower than in other transition countries (see for instance, Faggio and Konings, 2003 and Friebel and Guriev, 2005).

The latter are very important: interregional migration in Russia is influenced by the huge regional distortions that have been accumulated during the Soviet regime. According to the *Expert Institute* (2000) and *World Bank* (2001), about 24.5 mln Russians (out of 145 mln total) reside in mono-towns (i.e., settlements where the largest enterprise accounts for more than 50% of employment). There are legacies of the Soviet government's ethnic policies: firstly, central government used to move whole nations by force (Crimean Tartars, Chechens and Ingushes, Jews, Volga Germans etc.). The political liberalisation allowed these people back home, which has become a major determinant of the post-communist migration flows.

The second issue is the rise of nation states and republics both within Russia and in former Soviet republics that drives many native Russians back to Central Russia (Zayonchkovskaya, 1994). In some of the ethnic republics and the newly independent states, the share of migrants to Russia during the 1990s accounted for tens of percent of the labor force. The third source of distortions is the Soviet system of restricting mobility from rural areas and small towns to metropolitan areas (through so-called *propiska*).

The controls imposed on migration to major cities resulted in significantly faster growth of population in uncontrolled cities (Gang and Stuart, 1999). Soviet government has also been expelling criminals and the (voluntarily) unemployed from major cities, what led to significant differentials in living conditions, in particular in crime levels (Shelley, 1984). All these legacies have created a large potential for migration from northeast of Russia to the European part of the country.

To sum up, since during the 90s and the beginning of 2000s there was the mixture of centralisation and decentralisation tendencies in the reforming of the local self-governance in the RF, the inappropriate attempts to balance the powers between the levels of authority and ruling elites have put local self-governance in a difficult situation characterised by contradictory legislation and unstable relations on the vertical axis of power: federal centre – regional authorities – local self-government. Moreover, the shift of decision-making power to firms and households supposed to create a more predictable business environment for foreign investors.

It was only in 2000, when Russian policy-makers started thinking about improving the country's institutional framework. Only after 2000 (when a new Russian President, Mr Putin, was elected) much effort has been made by his administration to strengthen central government control over the regions and a number of laws regulating sub-national finance came into force, aimed at improving uniformity in sub-national fiscal arrangements. It was then that President Putin had took the step backwards towards re-centralisation when the regions were re-grouped into seven federal districts, with presidential appointees established in Moscow and six provincial capitals[25].

In May 2000, seven Federal Districts were established to ensure that federal legislation is implemented throughout the country[26], each headed by a so-called "empowered representative" of the president. Each region is divided into a number of municipalities. The municipal level is responsible for a number of public services to the citizens, such as water supply, wastewater collection and treatment, district heating and waste collection, etc.

That is, only in the beginning of 2000s, after more than 10 years of the diminishing and weakening of central power, the Russian federal authorities were now successfully trying to regain political control over the regions[27]. Thus, a vague coalition of poor regions, non-existent until two months before the elections to State Duma in December, 1999, defeated the coalition of strong regions under the leadership of the Moscow mayor, using the administrative and economic resources from the federal centre.

This showed that a tendency towards restoring the traditional Russian pattern of top-down political control was being reinforced. These changes pointed towards a centralising direction but they have been made through federal legislation and not through constitutional amendments. In accordance with this, the changes in their role as political actors can be observed: the changes which are closely connected with the process of transition from "old" regionalism[28] to a "new" one[29].

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[25] In March 2004, the Constitution was amended to permit the merger of two of the 89 region administrative units, effective in 2005; further consolidation is expected. A law enacted in December 2004 eliminated the direct election of the country's regional leaders. Governors will now be nominated by the president and subject to confirmation by regional legislatures.

[26] Before this major administrative reform there was an "empowered representative" of the president in each Federal Subject (Region).

[27] Two arguments were used to attain this aim. Firstly, the war in Chechnya: the issues at stake were clearly the integrity of the RF and the predominance of the central power. It was an obvious political message to those, mainly non-Russian regions that gained major autonomy in recent years (Tatarstan, Bashkortostan). Secondly, the federal centre drastically increased its political control over the regions, supporting economically weak regions, which were recipients from the federal budget, against the stronger regions, the donors to the federal budget, during the recent parliamentary elections.

[28] Old regionalism was based on a top-down approach and to a large extent marked by a social and cultural agenda. In the 90s many of regional claims emerged as being more based on a "right to roots" or a

It is widely accepted that there has been a big shift in the relationship between the state and businesses during President Putin's terms in power (CEFIR, 2006); a centralisation process has also been initiated which restricted the autonomy of regional political elites and moved political and economic power from the regions to the federal centre. In contrast to Yelsin, whose political term was notorious for straightening oligarchs, Putin began his first term in the office by fighting the most famous of them; this was also on the agenda during his second term in power. A new anti-corruption campaign was launched and some governors (who were considered most corrupt) were not permitted to run for re-elections.

Considering the initiatives above, one would expect a significant decrease in the level of corruption in the regions. However, Yakovlev and Zhuravskaya (2004) for example show that the level of corruption grew gradually during Yelsin's first term and remained almost unchanged during Yelsin's second term and both terms of Putin. Have Putin's attempts led to a real redistribution of political power? During Putin's administration, a concentration of political power to the centre has been seen: federal government's firms became the most efficient lobbying during Putin's governance, whilst firms that engaged in loans-for-shares schemes and firs that belong to regional government lost their political power (CEFIR, 2006).

## 4.4 Structure of the State Power of the Russian Federation

Traditionally, Russia has not been a society based on the "rule of law"[30] principles. Rather, the governance of the country has been based on the administrative apparatus. Although during the past decade, a number of steps towards the rule of law have been taken and a number of key pieces of legislation have been drafted and passed, there are still both gaps and overlaps in regulation: some areas are not regulated properly and other areas are subject to several provisions, thus, creating confusion concerning the actual legislation in force – i.e., confusion

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cultural identity framework than on economic development needs. Some of the regionalisation influences at the time as cultural demands stemming from social movements within the regions or the demands for regional autonomy from "historic nations".

[29] In "new" regionalism, economic issues begin to play a dominating role: new regionalism is characterised therefore by regions which are behaving as new, dynamic political and economic actors with demands which do not necessarily correspond with those of the national authority and which are not necessarily confined within the national boundaries.

[30] The term of rule of law does not have a precise definition and its meaning can vary between different nations and legal traditions. Generally, however, it can be understood as a legal-political regime under which the law restrains the government by promoting certain liberties and creating order and predictability regarding how a country functions. In the most basic sense, the rule of law is a system that attempts to protect the rights of citizens from arbitrary and abusive use of government power.

between old (Soviet) regulation and new regulation. Furthermore, changing the system towards "rule of law" is difficult due to resistance in the administrations.

Individuals in the administrations have built up power bases, which secure influence and eventually economic gains. It has been pointed out that these gains can be extraordinarily high in the context of a partly liberalised economy, and especially in economies rich in natural resources, which is the case for Russia (World Bank, 2006). Administrative reforms would jeopardise these positions and consequently the reformers have to overcome short-term losses for individuals in order to create long-term benefits for the society.

According to the RF Constitution 1993, all the subjects of the RF are equal among themselves in relations with the Federal bodies of state power. Unity of economic space, free movement of goods, services and financial resources, support for competition and freedom of any economic activity are guaranteed; state power in the RF are exercised by the President of the RF, the Federal Assembly (Council of the Federation and State Duma), the government of the RF and courts of the RF (Figure 4). State power in the subjects of the RF is exercised by the organs of state authority formed by them.

The scope of authority and powers of the bodies of state authority of the RF and the bodies of state authority of the subjects of the RF is delimited under this Constitution, Federal and other Treaties on the delimitation of scopes of authority and powers. Local self-government is recognised and guaranteed in the RF. Local self-government operates independently within the bounds of its authority. The bodies of local self-government are not part of the state power bodies. There are two tiers that can be distinguished at the sub-regional level of governance in Russia: the upper tier consists of cities and districts, and the lower tier comprises towns, settlements, and villages.

On the one hand, in some regions the upper tier is settled as a basic unit of the local self-government. It has provided a level of democratic authority to which former central state functions can be conveniently and incrementally transferred. On the other hand, in other regions only the lower tier is granted the status of local self-government. The upper one is stripped of self-government and reorganised as branches of regional administration with appointed chief executives and no elected councils. In this case democratically elected local authorities cannot satisfactorily fulfil at least some of the functions.

Different researchers distinguish between three to five levels of such governmental power[31]. In general, there are three existing administrative levels in Russia – the federal, regional and local/municipal. They all have legislative, executive and judicial bodies. The individual regions have extensive autonomy from the federal level, and the institutional set-up of the authorities at sub-federal levels varies from region to region.

This picture of the Russian governance becomes yet even more complicated when we take into consideration that most governmental institutions have a "vertical" hierarchy of offices from the federal down to the lower administrative levels[32]. Moreover, the newly established level of federal districts does not yet cover the full spectrum of establishments corresponding to the federal ministries and other executive power bodies, even though most of them are present within the lower administrative levels. In addition, levels of Russian government in reality are different from what it should be according to its Constitution.

Although the structure of Russian government administration can be represented by Figure 4, what one can observe in fact is that there is a wide variety of sub-federal government structures that exist in Russia to date. Furthermore, local or municipal governments can have a significantly different meaning from one region to another. As a result, models of local government vary, often according to local traditions and the priorities of regional leaders or heads of municipal or regional administration, i.e., governor. Nevertheless, four basic models of sub-national governments, each offering different degrees of budgetary autonomy, can be distinguished.

Under the scheme of Model 1 (which can be called 'Local Governments in Cities and Rayons'), municipalities in larger cities and *rayons* report to the regional government (smaller cities could also be included in the *rayon* category). Financial dealings with federal government agencies (e.g., transferring funds, sharing taxes, etc.) are specified by branches of the regional governments. This pattern is typical of most Russia's regions. There 64 of these in the RF (Table 4).

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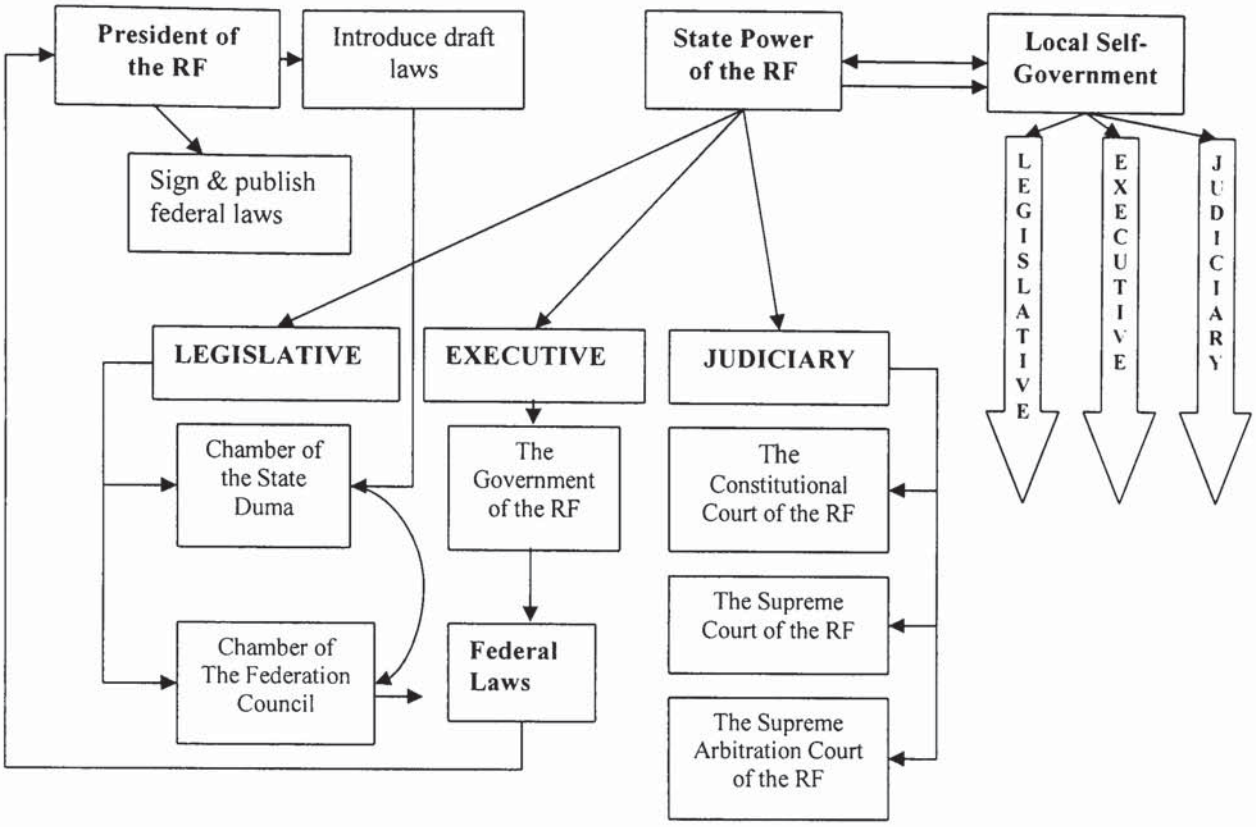
[31] Blanchard and Shleifer (2001), for instance, point at least three levels of government in Russia: federal, regional and municipal governments all with legislative, executive and judicial bodies. Zhuravskaya (2000), on the other hand, outlines five levels of government in Russia: federal, regional, first-tier local (including cities and *rayons*), second-tier local (including cities within *rayons* and districts within cities), and the third-tier local (including districts within cities within *rayons*). Only the top three levels, she argues, are authorised to make decisions about their expenditures, on collection of their own revenues, and so on. The lowest two tiers are the branches of the first tier local governments and are directly subordinated to them. The first tier local governments have become legally independent from the upper levels in 1991 and in 1993 the independence of the first local governments was established in the Constitution.

[32] At the local level, there are only few separate offices under ministries as the more diverse functions are normally performed by joint departments of executive bodies.

**Figure 4 Structure of the State Power of the Russian Federation**




*Source: Constitution of RF, created by the author*

Many municipal governments in large and small cities and rural villages operate at levels below the *rayon*, and they usually set up divisions of sub-local executive bodies that "interpret" the decisions made by the higher elected government authority. They have been reluctant to recognise these governments as participants in the intergovernmental fiscal relations. This Model 2 can be called 'Local Governments at the Sub-Rayon Level'. There are 5 such regions in the RF (Table 4).

Different regions have interpreted Model 3 (which can be called "Double-layer Cake" of Local Government') in different ways, but most have taken one of two approaches. In the first approach, regional bodies create an intermediate level of local *rayon*-level government in the *rayons* and cities – local self-government bodies (that formed in all populated areas such as small towns, rural districts, districts within cities) which report back directly to the regional government; financial relations between this second level of local government and the regional government work through the intermediate level created in this system.

Under the second approach, regional governments refuse to recognise all branches of local self-government as full-fledged participants in intergovernmental fiscal regulations, but delegate their intergovernmental fiscal powers to "traditionally" formed bodies of local self-government instead, disregarding any sub-*rayon* level municipal entities that may have spun off. In Astrakhanskaya and Bryanskaya Oblasts, territories of Model 1 municipalities are fully covered by Model 2 municipalities. There are 8 such regions in the RF (Table 4).

According to Model 4 (which can be called 'Local Governments with no Budgetary Rights'), two common approaches actually eliminate the budgetary power of local government, even within elected representative and executive bodies. In the first approach, regional authorities unilaterally resume, or retain, their functions of levying local taxes and forming local budgets within territories under their jurisdiction.

The municipal government bodies then execute budgetary functions assigned to them without assuming responsibility for the sources of the revenues or how they are spent. Under the second approach, regional authorities officially volunteer to perform functions delegated to them by local self-government bodies, including establishing local taxes and forming local budgets in territories within their jurisdictions. There are 9 such regions in the RF (Table 4).

## 4.5 Range and Distribution of Activities of the Regional Authorities

It should be clear from the above considerations that regional authorities – whose number has been dramatically increased due to decentralisation since 1995 – are the most important players in the Russian institutional framework. They decide on the structure of the regional administration or government and set the rules for the functioning of the regional economy (Bikalova, 2001; Lavrov et al., 2001). All Russian municipalities have their own budgets, to which budgeting principles and rules are applied, some of which are also common to those binding the central government budget.

As for the budgetary process, in the end of each year the executive organ of the municipality proposes to the legislative organ the local budget and the plan of activities for the following year. Municipal authorities are also subject to several control mechanisms by central government agencies that limit their access to revenues and expenditure options. Local government borrowing is also under control from central government.

Yet, regional governments decide themselves on the level of subsidies to state-owned enterprises and to households, along with the level of social benefits (Freinkman and Plehanov, 2005); they also determine the organisation of the regional fiscal systems and in particular the assignment of

expenditure responsibilities to municipal and regional governments. As there was little federal regulation on this issue in the beginning of the transition, regions had the opportunity to develop different decentralisation models.

Although the legislative assemblies draw up the regional budget, the chief executives are in charge of managing and distributing the bulk of the region's financial resources. The same is true with regard to the introduction of local taxes or the allocation of money for regional economic programs (Zhuravskaya, 2000). The regional parliaments approve the respective regulations, but the governors' apparatus is responsible for implementation. Likewise, regional authorities have the right to regulate prices, provide firms with licenses and decide on large privatisation programs.

Local governments are responsible for licensing and registration of firms with the upper levels of government responsible only for licensing for companies in sector that can produce large externalities such as chemical manufacturing. Local authorities also rent out space to business and establish most of regulations and fines. Also, Russian municipalities have the basic responsibility for local planning, local roads, public transport, cultural matters and local libraries, recreational facilities, public utilities including water, drainage, gas, electricity and refuse collection and disposal. In Russia their functions also include housing, public transport, retail trade and services, medical care, education and social policy.

They undertake some economic development activities. For this they could rely, among other things, on the use and disposal of natural resources (land, soil, water, forests, flora and fauna), real estate and local budgets. They are also (according to the principle of general competence, common in most of Western Europe) free in starting new activities in the public interest not already allocated. So the listing of functions is never complete.

Local governments could exert a significant impact on their business operations. For example, there is numerous evidence that bureaucratic red-tape and power abuse associated with local government damaged the local investment environment. Since economic reforms in Russia have resulted in considerable decentralisation of power from the central government to a more regional level, local governments now have a primary responsibility for economic development in their respective jurisdictions.

The decentralisation gave them great autonomy over their economies, including the authority to grant business licenses, make investments, transfer land use rights, coordinate urban developments, restructure state-owned enterprises and even resolve business disputes. Local governments are also permitted to approve FDI projects up to a certain limit; this was introduced

to generate strong incentives to local governments to provide a favourable environment for business and to reduce transaction costs for foreign investors.

Finally, there are a number of institutional challenges for foreign firms in Russia (variations in legal systems across regions, laws oriented towards public order and control by governments, interference by bureaucrats and regulators, and the practice of bribes and corruption distorting law enforcement). Facing different institutional environments, foreign investors react either by adjusting their strategies to local institutions or by choosing to locate where institutions are most conducive to their type of business operations. Economic and political institutions are therefore expected to influence FDI flows at the sub-national level.

**Table 4 Four Models of Local Governments**


*Source: Survey of financial departments in the Subjects of the RF by the Centre for Fiscal Policy*

## 4.6 Policy of the Russian Federation in the Field of FDI Attraction

FDI has been relatively slow to arrive in Russia. In 1987, a law was introduced permitting the formation of joint-ventures, which allowed the first inflows of FDI. The 1991 Foreign Investment Law, introduced just before the collapse of the USSR, allowed foreign companies to own up to 100% of a Soviet subsidiary, and introduced a range of incentives to attract FDI. This was the foundation of FDI policy in Russia until 1999, although several presidential decrees and legislative acts amended the interpretation of the law.

The amendments have alternatively offered new incentives to foreign investors and taken existing incentives away, as it has been politically difficult to maintain preferential treatment for foreigners. The end result was a series of contradictory and confusing regulations concerning FDI. In addition, it is important to distinguish between the introduction and implementation of legislation, as a number of regulations that have been introduced have never been put into practice.

Although an improved bankruptcy law was enacted in March 1998, a credible bankruptcy threat still does not exist. This means that enterprises still do no face hard budget constraints. The new Federal Law "On Foreign Investment in the RF" was put into force on July 14 1999, replacing the 1991 law. The basic principle of the law is that the treatment of foreign investors' activities and profits should be "not less favourable" than that for Russian investors. A number of exceptions are provided for, which are relatively vague and allow for discretionary interpretation by the government.

These include the protection of the constitution, public morals and health, and the rights and lawful interests of other persons and the defence of the state. One important new restriction is that the only form through which a foreign legal entity may conduct commercial activity in Russia is a branch, whereas previously there were provisions for both branches and representative offices. This leaves open the question of the legal standing of existing representative offices operating in Russia.

The 'Grandfather Clause' is intended to introduce protection to foreign investors against unfavourable changes in tax and other laws. This is applicable to "priority investment projects" only. A number of taxes (VAT, excise duties, pension fund contributions and local taxes) are not covered by this protection. The clause is far less generous than those recently passed by various Central Asian states, such as Kazakhstan.

The law removes the exemption of foreign individuals from Pension fund contributions. It confirms the right to repatriate income and profits after tax and guarantees the right to export

intangible property and information that had previously been imported into Russia. The law guarantees that there will be no illegal confiscation, requisition or other illegal acts by the state, and that any investor suffering such acts will receive fair compensation from the state.

The 89 Russia's regions are grouped into 12 'economic regions' (see Chapter 3 for a discussion). The 1992 Federation Treaty was the first attempt to redefine centre-periphery relations after the collapse of the USSR. It divided subjects of the Federation into three groups with differing degrees of autonomy. But the Constitution adopted at the end of 1993 granted all subjects of the Federation largely uniform rights. Although all subjects of the RF are created equal, the political relations between the centre and the regional governments lack clarity and regularity, as the division of power is rather ambiguously defined in the Constitution.

In practice, most regional governments have a bilateral arrangement with Moscow, and there is considerable diversity in the degree of autonomy held by regional governments (Huskey, 1999). There is a lack of clear delimitation of competencies between the federal, regional and local levels of government and a lack of institutionalisation of federal relations in general. The degree of autonomy of the subjects depends on the economic and political bargaining power of the regional ruling elite. This also affects its ability to attract federal support and retain income earned on its territory (Kirkow, 1999).

A law passed in 1991 provides the basic formal division of tax authority between federal, regional and local governments. The basic rules of taxation are established by federal law, so there is a stronger degree of fiscal centralisation than in several other federal countries (e.g., Canada, the US, Germany and Switzerland). The federal government sets the rates of 17 different taxes, including VAT, profit tax, personal income tax and excise tax. Regional administration can set property taxes for enterprises and some resource taxes. Local governments have the right to set different taxes and fees, under a constraint that limits the overall size of the local tax burden on firms (www.oecd.org).

The law also suggests a division of revenue for various taxes between different levels of government, but this is usually determined in practice through the bilateral negotiations. The first "power-sharing treaty" was signed with Tatarstan in February 1994. As of August 1997, one third of all subjects of the Federation had signed explicit power-sharing treaties with Moscow. The agreements delimit powers in budgetary relations, state property, the regulation of various branches of the economy such as the agro-industrial complex and defence industry, ownership and use of natural resources, environmental protection and regional migration. Most of the agreements are within the bounds of federal law, but there are some exceptions. The bilateral

agreements force the federal government to continually confront the problem that relatively rich regions demand more fiscal independence.

## 4.7 Conclusions

Federalism in Russia can be seen is mainly a political phenomenon: a form of political conflict between individuals with different interests regarding the principles of government organisation and institutional design, in the context of which, the process of determining "who gets what, when and how" appears to become a sort of political bargaining on whose version of the federal union is to be actually implemented. As a result, the political role of regions in Russia had become dependent on the level of their autonomy and their ability for participation in the federal decision-making process. Federalism in Russia can be seen as mostly a reflection of the balance of power between the central political elites and regional ones. It is uneven in terms of time and space, both political, including elements of federalism in the form of various state and public institutions, and geographic. This phenomenon also represents half-life-decay of a once mighty unitary power. It is also a dynamic phenomenon[33]. This dynamic has more than one level and its different component processes may not only progress at different rates but also have different directions. Hence, the resulting fluctuation is determined by the continually changing balance of the alternating processes of decentralisation and centralisation. Having represented both economic and institutional frameworks in which the study takes place we now however switch our discussion from the description of the formal technicalities of the Russian frameworks to the discussion of one of the most economically important issues, namely the rule of law (or the lack of it). This discussion will be based on the empirical estimations that are presented in the following three chapters. The data used in the empirical chapters are discussed explicitly in Appendix 3.1.

[33] This fluctuation is characteristic not only of the current transformation, but also of all the "troubled times" in the history of Russia: the dismantling of the old system was accompanied by decentralisation of government all the way up to political disintegration after which a new system of power has been created having a sufficiently high level of decentralisation. In any event, though, this system assumes qualitatively new features (different organisation of power, different methods of government).

# CHAPTER 5:

# FDI and Corruption

## 5.1 Introduction

The purpose of this chapter is to analyse the impact of perceived corruption on the regional distribution of FDI in Russia. There is an increasing focus in the literature on the international competitiveness of nations, of cities and of regions within and between nations or states. The location of business activity is important for a number of reasons. The place where a business is located affects the efficiency and competitiveness of the enterprise, which makes factor endowments and relative costs important to the location decision. In addition, the development of business in a particular location affects the local population through employment, skills, income generation, technology and information transfer, local tax revenues and opportunities to specialise or diversify the local economy.

Understanding the impact of corruption on economic growth and other economic outcomes has always been a key research topic in economics. Corruption is acknowledged to be detrimental to a country's economic growth in several ways. It has a negative impact on the adoption of new technologies, slows down the process of capital accumulation and harms the country's capability of attracting FDI (for instance, Hines, 1996; Wei, 2000; Habib and Zurawicki, 2002, among others).

The last point is hardly surprising as high levels of corruption are usually associated with institutional environments that are of poor institutional governance and weak protection of property rights; factors that are typically unfavourable to foreign investors. Not surprisingly then that the empirical research on the relationship between corruption and FDI has found a negative correlation between the two variables suggesting that foreign investors prefer not to invest in countries where the levels of corruption (and rent-seeking) may increase the cost of investing abroad in an unpredictable way.

Although the study presented in this chapter aligns to the IB literature in that it tries to ascertain the impact of corruption on FDI, it differs from it in several respects. One of which is that the focus of our study is on the *inter-regional* allocation of FDI (stocks). Typically, regional governments in federal countries have substantial regulatory and legislative powers to attract foreign investors and therefore understanding the extent to which weak governance of regional governments can deter foreign investor's location decision has immediate relevance for both policy-makers and academics.

Russia presents an interesting case study for our purpose. It is a federal state where regions have broad powers with respect to their fiscal policies, particularly the level and structure of budget spending. Heads of regional governments are the most important players in the regional institutional setting. They decide on the structure of the regional administration and government, they set the rules for the functioning of the regional economy and are directly responsible for economic and investment growth in the region (see Chapter 4 for a discussion).

With its large population, extensive natural resources and a rapidly growing economy Russia has become one of the largest recipients of FDI among the transition economies. There is however a strong perception among foreign investors that corruption is one of the main disincentives to invest into the country (FIAC, 2006) and that this problem is magnified by the country's federal structure. The latter is due to the fact that Russian regional government have substantial powers to shape laws and regulations that can affect directly foreign investors. Moreover, Russia's regions encounter different conditions for business and different degrees on interference by the Russian regional authorities (Ahrend, 2002).

In this study, we consider the impact of three different dimensions of corruption on the allocation of the FDI stocks. It is a well-known fact that corruption can take different forms (Hellman et al., 2000). It is normal to distinguish among administrative corruption[34] (or "petty" forms of bribery in connection with the implementation of laws, rules and regulations) and state capture[35] (where firms can affect the formulation of the laws and regulation through private payments to public officials and politicians).

As explained by Hellman et al. (2000), the difference among these two dimensions of corruption is in the source of the rents generated by the corrupt practices and how they are distributed among the firms and the government officials. Through state capture, rents are shared by firms and the corrupt officials, while through administrative corruption rents accrue primarily to corrupt public officials. Of course, corruption is not only limited to state capture and administrative capture. Bureaucrats can also "capture" and control firms so to be able to extract the maximum rent from the firms' productive activities (so-called "business capture")[36].

Most empirical studies on corruption and FDI, however, have not distinguished between different dimensions of corruption (with the only remarkable exception provided by Hellman et al., 2001). In our study, on the contrary, we are able to distinguish among these three types of corruption, as we are using the newly available indices on the perceived level of corruption of Russian regional

[34] We labelled this as CORR10.
[35] We labelled this as CORR11.
[36] We labelled this as CORR12.

governments compiled by TIR in 2002[37]. As in Russian regions these corruption indices are rather highly correlated in the range of 0.72-0.78 (see Appendix 4, Table 4.1), we should treat Russian corruption as one phenomenon. Although we use all three measures of corruption, we treat these three indices as a proxy for a composite phenomenon of corruption and not as a measure of a particular dimension.

The format of our empirical analysis is as follows. We use a data-set for 40 Russian regions[38]. For each region, we have information on FDI stocks and some additional regional economic characteristics plus the information about the perceived levels of corruption in these 40 regions in 2002. Using Hausman-Taylor Random effect (HT RE) estimation technique which allows us to control for endogeneity of corruption, we regress the regional FDI stocks on a standard set of economic determinants of FDI and three TIR indices of corruption.

The results of this investigation are as follows. Firstly, although the study finds support for the importance of economic factors (namely, market size and domestic agglomeration) pointed out by previous studies, it has not found natural resources to be a significant explanation of the uneven pattern of the distribution of FDI within Russia which was argued previously to be the case.

Secondly, evidence suggests that along with negative impact, corruption has a positive influence on the decision-making process of foreign investors in Russia during the period under investigation. On average, the association between FDI and corruption is found to be positive. This supports the "helping hand" hypothesis of the impact of corruption on FDI and also meets our expectation regarding the possible effect of corruption on FDI. Corruption generally has a negative connotation according to many authors. However it can in some circumstances be a distinctly beneficial phenomenon. For example, Leff's (1964) most frequently cited source for the argument is that corruption in the form of bribing can be an important arm in the hands of entrepreneurs seeking to do business with a hostile or indifferent government and might stimulate the development process.

The rest of the chapter is structured in the following manner. Section 5.2 describes the econometric specification used in the study. Section 5.3 discusses empirical findings from the

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[37] In 2002, the Open Society Institute commissioned Transparency International to survey the corruption practices in 40 Russian regions. The survey has gathered information on different forms of corruption, including (among the others) state capture, administrative corruption and business capture; see also Chapter 4 for the discussion of the data.

[38] As of 89, there are only 40 regions for which corruption indices are available.

specifications developed in section 5.2. Finally, section 5.4 concludes and points at policy recommendations.

## 5.2 Empirical Analysis

Based upon the review of the literature presented in Chapter 2, the following basic specification is used in this analysis:

(5)

$$FDIST_r = Const + \beta_1 \cdot X_r^{'} + \varepsilon_r$$

Equation (5) suggests cumulative FDI stocks[39] (taken in log) in a region $r$ to be a function of a vector $X'r$ of variables related to economic, geographic and institutional conditions. **GRPCAP, NATRES, SKILL** and **POPDEN** are lagged one year, which may help mitigate some of the simultaneity and endogeneity problems. All monetary variables are deflated by CPI. Following Wei (2000), we used FDI stocks as a measure of foreign capital. The choice of explanatory variables can be explained in a following way.

Foreign investment should be positively influenced by the size of the regional economy (**GRPCAP**). In the FDI literature, market size has been shown to be an important determinant of investment[40]. In our study, it is measured at average annual GRP rate per capita. Labour quality has often been suggested to be one of the location advantages that attract FDI (UNCTAD, 1998). To control for the quality of the labour force in the Russian regional economies, we use **SKILL** which is measured by the number of people with technological qualification in the total country's work force.

Jacobs (1969) argues that more diverse environments (those existing in cities) provide a better ground for new ideas (as this way new ideas from different areas are facilitated). Urban settlements have a higher concentration of customers (people with preference for trying out new goods) which enhance the consumption. On the supply side, production of these new goods requires more educated workers, which are also concentrated in cities (we control this 'education' by adding **SKILL** into our regressions).

It is also argued that knowledge-intensive firms are more concentrated to the regions which give a comparative advantage for the innovative firm. As firms have found a suitable production

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[39] Following Wei (2000).

[40] As suggested, for example, by Wheeler and Mody (1992), Mody and Srinivasan (1998), Wei et al. (1999), Resmini (2000), List, (2001), Driffield and Munday (2002), Zhang (2001), Globerman and Shapiro (2002), Hon et al. (2005) in the studies on FDI determinates.

system for the new good, they might decentralise production to avoid congestion costs and engage in mass production. The comparative advantage of cities therefore resides in their abilities to develop and test new products, whereas the comparative advantage of more peripheral areas is in mass production.

Therefore, the established fact that specialised and diverse cities co-exist can be explained, but due to the presence of congestion, we would expect more innovations to take place in the larger cities. Furthermore, while innovations are developed, static localisation and urbanisation economies are interwoven in a complicated dynamic game within urban settlements, so that cities can seldom be identified as completely diverse or specialised. This suggests that the size of the urban settlement together play a crucial role for the location of production, and the development of ideas.

We can conclude then that while diversity/specialisation arguments emphasise agglomeration in general, Jacobs discussion emphasises the development of ideas, resulting from diversity. To account for this diversity (so-called Jacob's externalities), we use **URBAN** which is a dummy variable for the number of large cities in the regional economies.

Different regional policies towards foreign direct investors can explain uneven distribution of FDI within a country (Broadman and Recanatini, 2002; Iwasaki and Suganuma, 2005). One of the political factors we control for is an establishment of special economic zones (SEZs) in Russia between 1995 and 2004. **SEZ** used in the study is a dummy variable that accounts for the existence of SEZs in Russia.

Dunning (1993) suggests location-specific advantages of regions to be related to the characteristics of natural resources. Further, McCarthy and Puffer (1997), Hirvensalo and Lausala (2001), Bevan and Estrin (2004) and Iwasaki and Suganuma (2005) explain the abundance of Russia with natural resources to be one of the most important factors in attracting foreign capital. As a proxy for natural resources abundance, we use **NATRES** which is measured as the proportion of oil, gas and gas condensate extraction in a region to GRP. Although we expect this variable to be significant and positively related to FDI stocks' accumulation within Russia, in our sample this variable can be found insignificant as not all regions under investigation are the once that are resource abundant (see a discussion in Chapter 3).

Russia's geography can influence the spatial distribution of foreign investment in several ways. Temperature differences can impose higher costs on firms operating in colder regions (for instance, in terms of required energy consumption (Manaenkov, 2000)). Russia is a very large

country and its regions differ greatly in terms of geographical characteristics[41]. Therefore, it is important to control for the effect of the climate on the location of FDI within Russia as in theory foreign investors might find investing in the 'cold' regions less attractive (Iwasaki and Suganuma, 2005).

The average January temperature (**TEMP**) is used to control for the difference in climate conditions across regions. It is expected to relate to FDI positively. It could, however, in theory be found negative as the most of the Russian regions can be characterised by 'harsh' weather condition so it is not necessarily that the foreign direct investors would be interested to invest in regions with higher temperatures.

Regarding the costs of doing business, the geographic distance between Moscow and regional capitals can affect the costs of internal organisation of MNEs and economic risks of doing business in the country as it could affect the availability of information about the local environment and the personal interaction between local and foreign individuals. Prior research has generally found distance as a proxy for information costs to reduce FDI inflows since it can increase costs of doing business abroad (Wei et al., 1999). Kilometre distance to Moscow (**DIST**), Russia's capital – and principal commercial and financial hub – is used a proxy for information costs, which we assume should be negatively related to foreign investment.

As it has been argued before (see Chapter 1 and 3 for a discussion), apart from the capital city and its surrounding region (Moscowskya oblast) FDI in Russia is not observed to be concentrated in the areas near EU borders neither these are concentrated along coastal and border zones. Therefore, we add some additional variables that represent such geography to confirm this proposition: we add **PORT** to control for the coastal and boarder zones and **EU** for the areas/regions that are located near the EU. We expect the relationship between FDI and latter two variables to depend on the MNEs' motives of investing within Russia however.

We next consider the political environment of the regions. We first control for the extent of corruption in a region. As measures of corruption three indices from TIR are used that are observed in 2002. These indices are: administrative corruption (**CORR10**), state capture (**CORR11**) and business capture (**CORR12**). We assume that, *ceteris paribus,* different dimensions of corruption could have different effect on FDI. We also add **TRUST** to our specifications. TRUST[42] is built on responses from firms questioned about their confidence in different public sector organisations at all levels (i.e., federal, regional and local/municipal

[41] See Chapter 2 and Chapter 3 for a discussion.

[42] General Index of Public Trust is one of the twelve indices compiled by TIR in 2002.

authorities). Conditional on all dimensions of corruption, it is expected to have a negative association with FDIST.

Data used in the study are discussed in Appendix 4 where we also present a correlation Table 4.1. Descriptive statistics of all variables used in the analysis by region in Table 4.2 and descriptive statistics of all variables used in Table 4.3 can also be found in Appendix 4. We table variables used in the study, giving their sources and definitions and explaining the way they were measured in Table 4.4 (see Appendix 4).

## 5.3 Estimation Results and Discussion

The restrictiveness of the availability of corruption data, limits the sample size of the regions used in the analysis to 40 and the length of the period to 3 years. To control for multicollinearity, we first use the principle component analysis to obtain the combined function evaluating three corruption indices of each of 40 regions. Its excellence is that the coefficients are based on the correlation structure of the original variables from the data analysis; it does not have any influence of subjectivity. We calculate eigenvalues of the correlation matrix (Table 5a) and the first eigenvector and the loadings of eigenvectors (Table 5b).

**Table 5a Principle Components/Correlation**

| Component | Eigenvalue | Difference | Proportion | Cumulative |
|---|---|---|---|---|
| Comp1 | 2.5269 | 0.8423 | 0.8423 | 0.8423 |
| Comp2 | 0.2820 | 0.9083 | 0.0940 | 0.9363 |
| Comp3 | 0.1912 | | 0.0637 | 1.0000 |

**Table 5b Principle Components (eigenvectors)**

| Variable | Comp1 | Comp2 | Comp3 | Unexplained |
|---|---|---|---|---|
| CORR10 | 0.5713 | 0.7162 | 0.4009 | 0 |
| CORR11 | 0.5722 | 0.6977 | 0.4311 | 0 |
| CORR12 | 0.5885 | -0.0169 | -0.8083 | 0 |

The largest eigenvalue of the correlation matrix values 2.5269 and the first principal component can reflect 84.2% information of the original data. We select the first principal component (**FIRST_COMP**) to analyse further. The higher loading of Comp1 shows that it accounts for the

majority of variation among three corruption indices. The identity eigenvector of the largest eigenvalue and the factor loading of all original corruption variables on the first principal component (Comp1) are shown in Table 5b.

Thus **FIST_COMP** represents a synthetical grade of corruption. The regions with stronger corruption perceptions will have larger score of FIRST_COMP. The correlation analysis shows the coefficient between FIRST_COMP and FDIST to be 0.2505 which means that there is no significant correlation between the two. We next use FIRST_COMP as the synthetic evaluating function to appraise the impact of corruption on FDI stocks.

We first run 9 OLS regressions with FIRST_COMP (Models OLS 1.1-OLS 9.1); results are shown in Table 5.1. In OLS 9.1, we have added **Y02** and **Yr03** to our final Model 8.1 to check the robustness of the results. **YR02** and **YR03** are the time dummies controlling for all unobservable shocks in the Russia economy between 2002 and 2004. We then run 9 Hausman-Taylor Random Effect (HT RE) regressions (corresponds to Models HT RE 1.1 - HT RE 9.1) results are shown in Table 5.2. We have added **Y02** and **Yr03** to Model HT RE 8.1 to check the robustness of the results.

We next run 9 OLS regressions with all three (CORR10-CORR12) corruption indices (Models OLS 1.2 - OLS 9.2); results are shown in Table 5.3. In OLS 9.2, we have added **Y02** and **Yr03** to our final Model 8.2 to check the robustness of the results. We then run 9 Hausman-Taylor[43] Random Effect (HT RE) regressions (corresponds to Models HT RE 1.2 - HT RE 9.2) results are shown in Table 5.4. We have added **Y02** and **Yr03** to Model HT RE 8.2 to check the robustness of the results.

The results show that the first component (although significant in OLS regressions) becomes insignificant when corruption is assumed to be endogenous (in HT RE regressions). Therefore we can conclude that the three corruption indices used further in the analysis are the better option to choose than the first component. Tables 5.3-5.4 describe the results of estimations in which CORR10-CORR12 are used.

A log-linear relationship is assumed between cumulative stocks of FDI stocks and our explanatory variables. Therefore, the coefficient estimates reported here are semi-elasticities except for the explanatory variables that were used in logs. To avoid endogeneity bias, one-year

[43] In proposed model of Hausman and Taylor (1981) some of the regressors are correlated with the individual effects and the resulting estimator is called the HT estimator. The latter is based upon an instrumental variable estimator which uses both the between and within variation of the strictly exogenous variables as instruments: the individual means of the strictly exogenous regressors are used as instruments for the time invariant regressors that are correlated with the individual effects (Baltagi, 2001).

lagged endogenous variables were used where specified. We estimate HT RE models which allow us to assume that one of the covariates (i.e., corruption) is correlated with the unobserved individual-level random effect. That is, in this way we are able to control for endogeneity of corruption in our estimations.

The Wald test is a way of testing whether the parameters associated with a group of explanatory variables in our models are zero. If for a particular explanatory variable, or group of explanatory variables, the Wald test is significant, then we would conclude that the parameters associated with these variables are not zero, so that the variables should be included in the model. If the Wald test is not significant then these explanatory variables can be omitted from the model.

When considering a single explanatory variable, we use a t-test to check whether the parameter is significant. For a single parameter the Wald statistic is just the square of the t-statistic and so will give exactly equivalent results.

We use two variations of the Wald test. Wald (1) examines the joint significance of all explanatory variables included in our models (i.e., whether or not they are equal 0). Wald (2) tests the individual significance of these variables (i.e., whether each of the explanatory variables equal 0). The results of these tests are presented at the bottom of Table 5.1-5.4. The results confirm that all explanatory variables included in the models are both individually and jointly not zero ($p>0.01$) and as such should not be excluded from our specification.

By adding one variable at the time we check the robustness of our results. Results hold. Much of our initial intuition tends to be supported: economic characteristics as well as Russia's politico-economic environment appear to explain differences in FDI stocks accumulation across Russia's regions. High *R-sq.* on average of 0.75 shows that our models have rather strong significant explanatory power in explaining the uneven FDI stocks accumulation within Russia in 2002-04. That is, on average over 75% of variation in FDI stock accumulation is explained by the variables specified for the estimation.

Since panel is used we now also add an individual regional index into formula (5) above and check whether the results hold. These results are presented in Tables 5.5 and 5.6. Apart from REG1 (Belgorodskaya obast), REG4 (Voronezhskaya oblast), REG10 (Moscowskaya oblast) and REG12 (Ryazanskaya oblast), regional indices are dropped from estimation due to collinearity. The individual regional indices presented in Tables 5.5 and 5.6 however are not showing any significance in association with FDI. Results hold.

To summarise this first-cut analysis, we can say that regions with sizeable market potential and those with "investor-friendly" business environments have attracted greater amounts of FDI inflows and hence accumulated greater FDI stocks than have other regions in the country. That is,

we found politico-economic environment to explain much of the observed variation of FDI stocks across Russia's regions in 2002-04. Our results are somewhat in line with the recent literature: they suggest that a core number of variables help explaining the observed differential in cumulative FDI stocks across Russia's regions. Our findings show that this core includes namely a region's GRP per capita, urbanisation economies/domestic agglomeration, and institutional environment (i.e., corruption and public trust).

Geography and climate, although significant in OLS regressions become insignificant when we control for endogeneity of corruption in HT RE regressions. Interestingly, natural resource abundance so acclaimed to be a significant factor of FDI in Russia is found to be insignificant. The latter result can be however explained by the fact that most of the regions in the sample used for the analysis are not natural resource abundant regions (see Chapter 3 for a discussion). Corruption has been found to directly influence the FDI stocks accumulation on average positively. Results are somewhat similar to those from OLS and HT RE regressions. These hold when dummies for 2002 and 2003 years are added.

Starting with OLS regressions, results in Table 5.3 show that, *ceteris paribus*, one unit increase in (1) market size (GRP per capita) leads to 1.7% increase in FDI stocks ($p<0.01$), (2) administrative corruption leads to 7.3% increase in FDI stocks, (3) state capture leads to 2.2% increase in FDI stocks ($p<0.05$), (4) business corruption decreases FDI stocks by 7.3% ($p<0.01$), (5) the lack of public trust reduces FDI stocks by 5.7% ($p<0.01$); (6) the outliers such as Moscow city and Sakhalin region decrease FDI stocks accumulation in other regions by 2 unit points ($p<0.05$), (7) availability of sea ports increases FDI stocks by 1 unit point ($p<0.05$), (8) domestic agglomeration increase FDI stocks by 0.06% ($p<0.01$), and (9) better climate (higher January temperatures) increases FDI stocks by 0.009% ($p<0.05$).

When corruption is treated as endogenous, HT RE regressions results presented in Table 5.4 show that at 5% significance level, *ceteris paribus*, one unit increase in (1) market size (GRP per capita) leads to 1.2% increase in FDI stocks, (2) administrative corruption leads to 7% increase in FDI stocks, (3) state capture leads to 2.7% increase in FDI stocks, (4) business corruption decreases FDI stocks by 7.3%, (5) the lack of public reduces FDI stocks by 5%; and (6) domestic agglomeration increase FDI stocks by 0.06%.

The results show that, on average, corruption has a positive association with FDI. However, if each dimension of corruption is taken into account one at the time, it is the business corruption that has a negative impact on FDI. Interestingly, it is the administrative corruption that has a stronger positive impact on FDI as compared to state capture. These findings are confirmed by the significant and negative association found between FDI and public trust. That is, in the

presence of higher extent of perceived corruption, our study shows that firms do 'trust' public authorities less.

## 5.4 Conclusions

The chapter empirically examined the determinants of the geographic distribution of FDI within Russia adding institutional factors to the 'core' determinants of FDI found in the literature. To our knowledge, this is the first study that investigates the latter at the intra-country level. We find that, among all determinants of FDI found in the IB literature and which this study controls for, only two economic factors (i.e., market size and domestic agglomeration) and institutional/political economy factors (i.e., corruption and public trust) appear to explain much of the observed variation of FDI flows across Russia's regions between 2002 and 2004. Out of three, two 'faces' of corruption are found to be associated with FDI stocks accumulation positively. Business corruption adds to costs of MNEs. Therefore it is possible that in such way it is an extra 'tax' that foreign investors have to pay when investing which increases their costs of doing business in a foreign country. This investigation shows that corruption is one of the key factors in explaining FDI location within Russia which implies that it can in fact be in certain cases a stimulus for FDI. The latter confirms the position of Leff (1964) that corruption is 'beneficial' in circumventing regulatory and administrative restrictions for example. The finding of a positive impact of corruption lends empirical support to existence of the 'helping hand' type of corruption with regard to FDI in Russia between 2002 and 2004. While higher extent of perceived corruption appears to be associated with more direct investment into Russian regional economies, these results, of course, should not be interpreted as support for corrupt regimes. As Aidt (2003) and others point out, the socially most beneficial policy is eliminating rather than circumventing corruption.

## Table 5.1 Parameter Estimates of OLS (Models 1.1 - 9.1)

| | OLS(1.1) | OLS(2.1) | OLS(3.1) | OLS(4.1) | OLS(5.1) | OLS(6.1) | OLS(7.1) | OLS(8.1) | OLS(9.1) |
|---|---|---|---|---|---|---|---|---|---|
| *Log GRPCAPt-1* | 1.713*** | 1.726*** | 1.648*** | 1.598*** | 1.594*** | 0.684** | 0.855** | 1.205*** | 1.186*** |
| | (5.80) | (6.16) | (6.28) | (5.91) | (5.86) | (2.43) | (2.93) | (3.76) | (3.10) |
| *FIRST_COMP* | 0.704** | 0.667** | 0.758** | 0.712** | 0.715** | 1.253*** | 0.961*** | 0.716** | 0.723** |
| | (2.53) | (2.40) | (2.65) | (2.54) | (2.53) | (5.09) | (3.96) | (2.82) | (2.73) |
| *Log TRUST* | -5.639** | -4.419** | -4.698** | -4.307** | -4.315** | -3.462* | -3.549** | -2.918* | -2.898* |
| | (-3.30) | (-2.83) | (-3.13) | (-2.89) | (-2.86) | (-2.37) | (-2.60) | (-2.21) | (-2.19) |
| *DOUTL* | 2.923*** | 3.178*** | 3.180*** | 2.590*** | 2.493*** | 3.853*** | 3.463*** | 1.966** | 1.985** |
| | (5.29) | (6.30) | (6.81) | (4.47) | (3.73) | (5.43) | (5.79) | (3.25) | (3.08) |
| *NATRESt-1* | 0.004 | 0.002 | 0.005 | 0.001 | 0.001 | 0.003 | 0.008 | 0.012 | 0.012 |
| | (0.60) | (0.26) | (0.82) | (0.18) | (0.14) | (0.51) | (1.21) | (1.79) | (1.79) |
| *SKILLt-1* | 0.045 | 0.044 | 0.033 | 0.028 | 0.028 | 0.031 | 0.023 | 0.019 | 0.020 |
| | (1.60) | (1.72) | (1.22) | (1.02) | (1.02) | (1.27) | (1.09) | (0.94) | (0.92) |
| *EU* | | -1.534*** | -0.890* | -0.834* | -0.826* | -1.286** | -0.568 | -0.211 | -0.216 |
| | | (-4.49) | (-2.44) | (-2.44) | (-2.43) | (-3.09) | (-1.59) | (-0.61) | (-0.62) |
| *PORT* | | | 1.009* | 0.846 | 0.837 | 0.906 | 1.412*** | 0.721 | 0.723 |
| | | | (2.45) | (1.92) | (1.83) | (1.77) | (3.59) | (1.98) | (1.96) |
| *SEZ* | | | | 0.920 | 0.907 | 0.695 | 0.837 | 1.435** | 1.428** |
| | | | | (1.41) | (1.33) | (1.23) | (1.69) | (3.17) | (3.11) |
| *POPDEN* | | | | | -0.00001 | -0.0003*** | -0.0002** | -0.0003** | -0.0003** |
| | | | | | (-0.16) | (-3.88) | (-2.98) | (-2.34) | (-2.33) |
| *URBAN* | | | | | | 0.103*** | 0.081*** | 0.071*** | 0.072*** |
| | | | | | | (6.74) | (4.80) | (4.53) | (4.34) |
| *DIST* | | | | | | | -0.0001*** | -0.0001 | -0.0001 |
| | | | | | | | (-4.18) | (-1.42) | (-1.40) |
| *TEMP* | | | | | | | | 0.115*** | 0.114*** |
| | | | | | | | | (3.84) | (3.67) |
| *YEAR2002* | | | | | | | | | -0.045 |
| | | | | | | | | | (-0.12) |
| *YEAR2003* | | | | | | | | | -0.111 |
| | | | | | | | | | (-0.33) |
| *CONST* | 1.936 | 2.946* | 2.481 | 2.904* | 2.904* | 4.321* | 1.637 | 1.057 | 1.060 |
| | (1.26) | (2.09) | (1.84) | (2.11) | (2.10) | (2.46) | (0.89) | (0.53) | (0.51) |
| *R-sqr* | 0.37 | 0.43 | 0.44 | 0.46 | 0.46 | 0.61 | 0.66 | 0.71 | 0.72 |
| *N* | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 |
| *Dfres* | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 15 |
| *Wald(1)* | 71.70*** | 65.10*** | 81.00*** | 82.50*** | 73.50*** | 64.30*** | 96.10*** | 137.70*** | 91.50*** |
| *Wald(2)* | 31.62*** | 29.04*** | 28.93*** | 27.79*** | 9.71*** | 15.18*** | 42.64*** | 46.23*** | 91.51*** |

***, ** *and* * *indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*

*Note: Robust t-statistics in parentheses.*

## Table 5.2 Parameter Estimates of HT RE (Models 1.1 - 9.1)

| | HT RE(1.1) | HT RE(2.1) | HT RE(3.1) | HT RE(4.1) | HT RE(5.1) | HT RE(6.1) | HT RE(7.1) | HT RE(8.1) | HT RE(9.1) |
|---|---|---|---|---|---|---|---|---|---|
| *Log GRPCAPt-1* | 1.151*** | 1.157*** | 1.142*** | 1.137*** | 1.135*** | 1.072*** | 1.090*** | 1.130*** | 1.009*** |
| | (6.41) | (6.45) | (6.41) | (6.40) | (6.37) | (5.92) | (6.08) | (6.32) | (4.05) |
| *FIRST_COMP* | 0.562 | 0.524 | 0.703 | 0.665 | 0.670 | 1.095* | 0.846 | 0.668 | 0.698 |
| | (0.95) | (0.91) | (1.19) | (1.12) | (1.10) | (2.05) | (1.65) | (1.38) | (1.39) |
| *Log TRUST* | -5.028 | -3.69 | -4.327 | -3.809 | -3.820 | -3.858 | -3.691 | -2.660 | -2.560 |
| | (-1.84) | (-1.34) | (-1.55) | (-1.33) | (-1.32) | (-1.57) | (-1.59) | (-1.21) | (-1.13) |
| *DOUTL* | 3.791 | 3.951* | 3.998* | 3.088 | 2.935 | 3.529 | 3.474 | 2.328 | 2.490 |
| | (1.82) | (1.96) | (1.98) | (1.39) | (0.86) | (1.22) | (1.27) | (0.90) | (0.93) |
| *NATRESt-1* | 0.004 | 0.004 | 0.005 | 0.004 | 0.004 | 0.004 | 0.002 | 0.001 | 0.001 |
| | (0.76) | (0.68) | (0.82) | (0.70) | (0.69) | (0.79) | (0.36) | (0.20) | (0.21) |
| *SKILLt-1* | 0.004 | 0.004 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 |
| | (0.46) | (0.49) | (0.49) | (0.38) | (0.43) | (0.43) | (0.33) | (0.33) | (0.42) |
| *EU* | | -1.595 | -0.721 | -0.615 | -0.600 | -1.125 | -0.363 | -0.062 | -0.078 |
| | | (-1.81) | (-0.67) | (-0.56) | (-0.53) | (-1.15) | (-0.37) | (-0.07) | (-0.08) |
| *PORT* | | | 1.397 | 1.25 | 1.243 | 1.105 | 1.761* | 1.104 | 1.137 |
| | | | (1.41) | (1.24) | (1.21) | (1.26) | (2.02) | (1.29) | (1.29) |
| *SEZ* | | | | 1.013 | 0.989 | 0.817 | 0.831 | 1.365 | 1.341 |
| | | | | (1.03) | (0.93) | (0.90) | (0.97) | (1.65) | (1.58) |
| *POPDEN* | | | | | 0.00002 | -0.0003 | -0.0003 | -0.0002 | -0.0002 |
| | | | | | -0.06 | (-1.06) | (-1.11) | (-0.99) | (-0.99) |
| *URBAN* | | | | | | 0.078** | 0.065** | 0.067** | 0.071** |
| | | | | | | (3.12) | (2.68) | (2.91) | (2.72) |
| *DIST* | | | | | | | -0.0003** | -0.00009 | -0.00009 |
| | | | | | | | (-2.41) | (-0.69) | (-0.67) |
| *TEMP* | | | | | | | | 0.112* | 0.108* |
| | | | | | | | | (2.37) | (2.17) |
| *YEAR2002* | | | | | | | | | -0.081 |
| | | | | | | | | | (-0.34) |
| *YEAR2003* | | | | | | | | | -0.089 |
| | | | | | | | | | (-0.62) |
| *CONST* | 2.284 | 3.305 | 2.552 | 2.969 | 2.961 | 2.551 | 0.796 | 1.031 | 0.725 |
| | (0.89) | (1.30) | (0.98) | (1.12) | (1.10) | (0.88) | (0.28) | (0.37) | (0.24) |
| *R-sqr* | 0.35 | 0.40 | 0.43 | 0.44 | 0.44 | 0.60 | 0.65 | 0.70 | 0.70 |
| *N* | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 |
| *Dfres* | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 15 |
| *Wald(1)* | 51.34*** | 55.74*** | 58.16*** | 59.15*** | 58.40*** | 76.04*** | 87.99*** | 102.44*** | 99.52*** |
| *Wald(2)* | 50.46*** | 54.78*** | 57.18*** | 58.16*** | 48.73*** | 62.44*** | 87.77*** | 102.19*** | 99.58*** |

***, ** *and* * *indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*

*Note: Robust t-statistics in parentheses.*

## Table 5.3 Parameter Estimates of OLS (Models 1.2 - 9.2)

| | OLS(1.2) | OLS(2.2) | OLS(3.2) | OLS(4.2) | OLS(5.2) | OLS(6.2) | OLS(7.2) | OLS(8.2) | OLS(9.2) |
|---|---|---|---|---|---|---|---|---|---|
| *Log GRPCAPt-1* | 2.060*** | 2.061*** | 1.985*** | 1.989*** | 1.957*** | 1.136*** | 1.294*** | 1.496*** | 1.557*** |
| | (7.53) | (7.94) | (8.18) | (7.64) | (7.60) | (5.09) | (5.81) | (6.72) | (5.88) |
| *Log CORR10* | 7.445*** | 7.149*** | 7.692*** | 7.722*** | 7.981*** | 8.758*** | 7.513*** | 5.824*** | 5.810*** |
| | (4.73) | (4.56) | (4.91) | (4.83) | (4.68) | (5.96) | (5.12) | (3.55) | (3.49) |
| *Log CORR11* | 2.348** | 2.232** | 2.023** | 2.037** | 2.017** | 2.247** | 2.573** | 2.476** | 2.561** |
| | (2.43) | (2.32) | (2.05) | (2.10) | (2.11) | (2.28) | (2.79) | (2.69) | (2.78) |
| *Log CORR12* | -8.816*** | -8.149*** | -8.278*** | -8.317*** | -8.569*** | -6.573*** | -6.513*** | -5.724*** | -5.806*** |
| | (-5.44) | (-4.85) | (-5.03) | (-4.94) | (-4.90) | (-4.70) | (-5.07) | (-4.41) | (-4.49) |
| *Log TRUST* | -6.984*** | -5.861*** | -6.158*** | -6.182*** | -6.345*** | -5.002*** | -5.138*** | -4.662*** | -4.714*** |
| | (-4.37) | (-3.72) | (-3.85) | (-3.70) | (-3.64) | (-3.55) | (-3.65) | (-3.26) | (-3.32) |
| *DOUTL* | 2.141*** | 2.273*** | 2.214*** | 2.234*** | 2.140** | 2.462*** | 2.137*** | 1.270* | 1.207* |
| | (3.43) | (3.78) | (3.94) | (3.59) | (2.57) | (3.96) | (3.86) | (2.29) | (2.17) |
| *NATRESt-1* | 0.011 | 0.009 | 0.013* | 0.013 | 0.011 | 0.011 | 0.001 | 0.006 | 0.006 |
| | (1.49) | (1.30) | (2.10) | (1.77) | (1.35) | (1.59) | (0.08) | (0.78) | (0.75) |
| *SKILLt-1* | 0.029 | 0.029 | 0.016 | 0.016 | 0.017 | 0.021 | 0.014 | 0.014 | 0.013 |
| | (1.19) | (1.30) | (0.67) | (0.65) | (0.71) | (0.91) | (0.71) | (0.70) | (0.59) |
| *EU* | | -1.168** | -0.437 | -0.438 | -0.333 | -0.850 | -0.142 | -0.139 | -0.154 |
| | | (-3.07) | (-1.11) | (-1.10) | (-0.82) | (-1.92) | (-0.40) | (-0.39) | (-0.43) |
| *PORT* | | | 1.147** | 1.154** | 1.059** | 0.082** | 1.569*** | 0.948** | 0.949** |
| | | | (2.79) | (2.59) | (2.39) | (2.16) | (4.74) | (2.46) | (2.44) |
| *SEZ* | | | | -0.038 | -0.206 | -0.120 | -0.025 | -0.636 | -0.632 |
| | | | | (-0.06) | (-0.33) | (-0.22) | (-0.05) | (-1.26) | (-1.23) |
| *POPDEN* | | | | | -0.0001 | -0.0002 | -0.0001 | 0.0002 | -0.0001 |
| | | | | | (-1.64) | (-2.11) | (-1.13) | (-0.52) | (-0.48) |
| *URBAN* | | | | | | 0.086*** | 0.064*** | 0.057*** | 0.055*** |
| | | | | | | (5.73) | (3.68) | (3.73) | (3.48) |
| *DIST* | | | | | | | 0.0002*** | -0.0001 | -0.0001 |
| | | | | | | | (-4.41) | (-1.76) | (-1.76) |
| *TEMP* | | | | | | | | 0.095** | 0.096** |
| | | | | | | | | (2.75) | (2.72) |
| *YEAR2002* | | | | | | | | | -0.152 |
| | | | | | | | | | (-0.45) |
| *YEAR2003* | | | | | | | | | -0.006 |
| | | | | | | | | | (-0.02) |
| *CONST* | 1.335 | 0.460 | 2.026 | 2.005 | 1.904 | 3.628* | 1.073 | 0.447 | 0.549 |
| | (0.83) | (1.53) | (1.22) | (1.15) | (1.07) | (2.21) | (0.56) | (0.22) | (0.26) |
| *R-sqr* | 0.53 | 0.56 | 0.58 | 0.58 | 0.58 | 0.68 | 0.73 | 0.76 | 0.76 |
| *N* | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 |
| *Dfres* | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 15 |
| *Wald(1)* | 87.30*** | 77.40*** | 77.20*** | 72.90*** | 70.40*** | 106.80*** | 140.20*** | 114.30*** | 93.90*** |
| *Wald(2)* | 29.56*** | 28.29*** | 28.12*** | 24.77*** | 11.38*** | 118.92*** | 49.41*** | 53.24*** | 93.88*** |

***, ** *and* * *indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*

*Note: Robust t-statistics in parentheses.*

## Table 5.4 Parameter Estimates of HT RE (Models 1.2 - 9.2)

| | HT RE(1.2) | HT RE(2.2) | HT RE(3.2) | HT RE(4.2) | HT RE(5.2) | HT RE(6.2) | HT RE(7.2) | HT RE(8.2) | HT RE(9.2) |
|---|---|---|---|---|---|---|---|---|---|
| *Log GRPCAPt-1* | 1.202*** | 1.207*** | 1.192*** | 1.186*** | 1.182*** | 1.119*** | 1.141*** | 1.168*** | 1.246** |
| | (6.73) | (6.77) | (6.72) | (6.67) | (6.65) | (6.27) | (6.46) | (6.59) | (2.65) |
| *Log CORR10* | 6.798** | 6.498** | 7.189** | 7.018** | 7.556** | 8.671*** | 7.584** | 6.195** | 6.202** |
| | (2.60) | (2.53) | (2.77) | (2.61) | (2.70) | (3.49) | (3.21) | (2.58) | (2.53) |
| *Log CORR11* | 2.556** | 2.457** | 2.913** | 2.833** | 2.916** | 2.327** | 2.915** | 2.619** | 2.698** |
| | (2.16) | (2.13) | (2.87) | (2.82) | (2.85) | (2.16) | (2.47) | (2.33) | (2.36) |
| *Log CORR12* | -8.693*** | -8.017*** | -7.933** | -7.674** | -8.213** | -7.116** | -6.698** | -5.854** | -5.940** |
| | (-3.33) | (-3.08) | (-3.06) | (-2.80) | (-2.88) | (-2.81) | (-2.83) | (-2.53) | (-2.47) |
| *Log TRUST* | -6.344** | -5.106** | -5.643** | -5.426** | -5.691** | -5.266** | -4.987** | -4.312** | -4.378** |
| | (-2.49) | (-2.04) | (-2.43) | (-2.30) | (-2.82) | (-2.13) | (-2.16) | (-2.03) | (-2.09) |
| *DOUTL* | 3.656 | 3.706* | 3.718* | 3.448 | 1.635 | 2.209 | 2.179 | 1.689 | 1.601 |
| | (1.92) | (1.98) | (2.00) | (1.67) | (0.52) | (0.80) | (0.85) | (0.68) | (0.62) |
| *NATRESt-1* | 0.005 | 0.005 | 0.006 | 0.005 | 0.005 | 0.006 | 0.003 | 0.002 | 0.002 |
| | (0.91) | (0.86) | (1.02) | (0.95) | (0.85) | (1.02) | (0.59) | (0.39) | (0.42) |
| *SKILLt-1* | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 |
| | (0.51) | (0.51) | (0.48) | (0.46) | (0.46) | (0.41) | (0.37) | (0.36) | (0.42) |
| *EU* | | -1.220 | -0.389 | -0.370 | -0.171 | -0.722 | -0.039 | -0.159 | -0.167 |
| | | (-1.50) | (-0.40) | (-0.37) | (-0.17) | (-0.78) | (-0.04) | (-0.18) | (-0.19) |
| *PORT* | | | 1.345 | 1.303 | 1.216 | 1.110 | 1.722* | 1.234 | 1.221 |
| | | | (1.51) | (1.43) | (1.31) | (1.36) | (2.15) | (1.51) | (1.46) |
| *SEZ* | | | | 0.308 | 0.016 | 0.038 | 0.022 | 0.520 | 0.512 |
| | | | | (0.33) | (0.02) | (0.04) | (0.03) | (0.61) | (0.59) |
| *POPDEN* | | | | | -0.0008 | -0.00009 | -0.00009 | -0.0008 | -0.0008 |
| | | | | | (-0.78) | (-0.35) | (-0.39) | (-0.37) | (-0.34) |
| *URBAN* | | | | | | 0.071** | 0.060** | 0.061** | 0.059** |
| | | | | | | (3.00) | (2.60) | (2.96) | (2.82) |
| *DIST* | | | | | | | -0.0002** | -0.0001 | -0.0001 |
| | | | | | | | (-2.43) | (-0.98) | (-0.96) |
| *TEMP* | | | | | | | | 0.082 | 0.083 |
| | | | | | | | | (1.70) | (1.66) |
| *YEAR2002* | | | | | | | | | -0.069 |
| | | | | | | | | | (-0.49) |
| *YEAR2003* | | | | | | | | | -0.044 |
| | | | | | | | | | (-0.19) |
| *CONST* | 1.455 | 2.649 | 2.014 | 2.200 | 2.044 | 2.507 | 0.647 | 0.058 | 0.246 |
| | (0.49) | (0.87) | (0.66) | (0.70) | (0.64) | (0.79) | (0.21) | (0.02) | (0.08) |
| *R-sqr* | 0.49 | 0.52 | 0.55 | 0.55 | 0.55 | 0.68 | 0.73 | 0.75 | 0.76 |
| *N* | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 |
| *Dfres* | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 15 |
| *Wald(1)* | 66.79*** | 70.32*** | 73.46*** | 72.34*** | 72.29*** | 92.48*** | 107.81*** | 118.15*** | 114.70*** |
| *Wald(2)* | 65.70*** | 69.15*** | 72.25*** | 71.14*** | 60.33*** | 76.76*** | 107.55*** | 117.88*** | 114.44*** |

***, ** and * *indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*

*Note: Robust t-statistics in parentheses.*

## Table 5.5 Parameter Estimates of HT RE with Individual Regional Indices (Models 10.1 – 18.1)

| | Model (10.1) | Model (11.1) | Model (12.1) | Model (13.1) | Model (14.1) | Model (15.1) | Model (16.1) | Model (17.1) | Model (18.1) |
|---|---|---|---|---|---|---|---|---|---|
| *LogGRPCAPit-1* | 1.187*** | 1.190*** | 1.177*** | 1.172*** | 1.174*** | 1.103*** | 1.095*** | 1.141*** | 0.957** |
| | (6.88) | (6.98) | (6.92) | (6.87) | (6.86) | (6.36) | (6.08) | (6.58) | (2.34) |
| *FIRST_COMP* | 0.040 | 0.137 | 0.024 | 0.019 | 0.048 | 0.238 | 0.693 | 0.112 | 0.160 |
| | (0.09) | (0.32) | (0.05) | (0.04) | (0.10) | (0.54) | (1.19) | (0.25) | (0.37) |
| *LogTRUST* | -3.674* | -2.203* | -2.740 | -2.624 | -2.527 | -2.505 | -3.501 | -1.947 | -1.833 |
| | (-1.91) | (-1.93) | (-1.35) | (-1.26) | (-1.19) | (-1.30) | (-1.39) | (-1.00) | (-0.97) |
| *DOUTL* | 2.134 | 2.363 | 2.358 | 1.997 | 2.810 | 3.137 | 3.690 | 2.356 | 2.551 |
| | (1.45) | (1.68) | (1.65) | (1.24) | (1.16) | (1.44) | (1.28) | (1.06) | (1.18) |
| *NATRES* | 0.005 | 0.003 | 0.004 | 0.004 | 0.004 | 0.005 | 0.002 | 0.003 | 0.003 |
| | (0.86) | (0.57) | (0.78) | (0.71) | (0.77) | (0.88) | (0.38) | (0.56) | (0.51) |
| *SKILLit-1* | 0.004 | 0.004 | 0.004 | 0.004 | 0.004 | 0.003 | 0.003 | 0.003 | 0.004 |
| | (0.57) | (0.53) | (0.52) | (0.49) | (0.49) | (0.45) | (0.35) | (0.41) | (0.50) |
| *EU* | | -1.546* | -0.899 | -0.813 | -0.912 | -1.215 | -0.591 | -0.759 | -0.789 |
| | | (-2.28) | (-0.96) | (-0.84) | (-0.91) | (-1.33) | (-0.46) | (-0.78) | (-0.85) |
| *PORT* | | | 0.787 | 0.750 | 0.776 | 0.671 | 1.710 | 0.503 | 0.528 |
| | | | (1.03) | (0.96) | (0.97) | (0.93) | (1.71) | (0.62) | (0.68) |
| *SEZ* | | | | 0.395 | 0.539 | 0.599 | 0.239 | 1.005 | 0.987 |
| | | | | (0.51) | (0.63) | (0.78) | (0.24) | (1.25) | (1.28) |
| *POPDEN* | | | | | -0.0001 | -0.0001 | -0.0001 | -0.0001 | -0.0001 |
| | | | | | (-0.46) | (-1.42) | (-0.80) | (-1.29) | (-1.41) |
| *URBAN* | | | | | | 0.047** | 0.059** | 0.043** | 0.049** |
| | | | | | | (2.39) | (2.32) | (2.11) | (2.23) |
| *DIST* | | | | | | | -0.0001** | -0.0001 | -0.0001 |
| | | | | | | | (-2.22) | (-0.03) | (-0.04) |
| *TEMP* | | | | | | | | -0.062 | -0.058 |
| | | | | | | | | (-1.49) | (-1.42) |
| *REG1* | -0.135 | -1.282 | -0.527 | -0.432 | -0.503 | -0.626 | -0.384 | -0.775 | -0.786 |
| | (-0.10) | (-0.87) | (-0.32) | (-0.25) | (-0.29) | (-0.40) | (-0.19) | (-0.49) | (-0.52) |
| *REG4* | -0.156 | -0.593 | -0.475 | -0.502 | -0.556 | -0.543 | -0.139 | -0.181 | -0.153 |
| | (-0.10) | (-0.41) | (-0.33) | (-0.34) | (-0.37) | (-0.40) | (-0.08) | (-0.13) | (-0.12) |
| *REG10* | 2.295 | 2.697* | 2.641* | 2.279 | 2.185 | 1.490 | 2.326 | 0.938 | 0.895 |
| | (1.61) | (1.97) | (1.90) | (1.44) | (1.35) | (1.00) | (1.18) | (0.62) | (0.62) |
| *REG12* | -0.530 | -0.249 | -0.223 | -0.191 | -0.177 | -0.199 | -0.910 | -0.495 | -0.497 |
| | (-0.38) | (-0.19) | (-0.17) | (-0.14) | (-0.13) | (-0.16) | (-0.54) | (-0.39) | (-0.41) |
| *Yr02* | | | | | | | | | -0.106 |
| | | | | | | | | | (-0.50) |
| *Yr03* | | | | | | | | | -0.098 |
| | | | | | | | | | (-0.74) |
| *Constant* | 3.834* | 2.628 | 3.245 | 3.152 | 3.088 | 6.412** | 0.212 | 4.741* | 5.195** |
| | (2.13) | (1.47) | (1.70) | (1.62) | (1.56) | (2.82) | (0.07) | (1.94) | (2.09) |
| *R-sqr* | 0.44 | 0.51 | 0.51 | 0.53 | 0.53 | 0.62 | 0.67 | 0.66 | 0.66 |
| *Obs* | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 |
| *Df* | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| *Wald* | 53.93*** | 67.47*** | 68.15*** | 67.42*** | 66.72*** | 78.74*** | 85.57*** | 82.66*** | 85.96*** |

***, ** *and* * *indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*

*Note: Robust t-statistics in parentheses.*

## Table 5.6 Parameter Estimates of HT RE with Individual Regional Indices (Models 10.2 – 18.2)

| | Model (10.2) | Model (11.2) | Model (12.2) | Model (13.2) | Model (14.2) | Model (15.2) | Model (16.2) | Model (17.2) | Model (18.2) |
|---|---|---|---|---|---|---|---|---|---|
| *LogGRPCAPt-1* | 1.179*** | 1.183*** | 1.209*** | 1.172*** | 1.168*** | 1.119*** | 1.136*** | 1.164*** | 1.239** |
| | (6.59) | (6.65) | (7.18) | (6.58) | (6.56) | (6.24) | (6.39) | (6.52) | (2.61) |
| *LogCORR10* | 6.028** | 5.257** | 2.443** | 5.894** | 6.563** | 7.813** | 7.047** | 5.728** | 5.735** |
| | (1.98) | (1.97) | (1.98) | (1.99) | (2.05) | (2.69) | (2.58) | (2.58) | (2.57) |
| *LogCORR11* | 2.053* | 2.251* | 2.635* | 2.812* | 2.805* | 2.999** | 2.864* | 2.317** | 2.385** |
| | (1.94) | (1.95) | (1.99) | (1.93) | (1.92) | (2.22) | (1.94) | (2.16) | (2.19) |
| *LogCORR12* | -8.266*** | -7.327** | -5.254** | -7.412** | -8.057** | -7.139** | -6.840** | -6.152** | -6.223** |
| | (-2.87) | (-2.59) | (-2.72) | (-2.50) | (-2.62) | (-2.58) | (-2.64) | (-2.54) | (-2.51) |
| *LogTRUST* | -6.337** | -4.315** | -4.428** | -5.183** | -5.614** | -5.102** | -5.098* | -4.464* | -4.523* |
| | (-2.33) | (-2.52) | (-2.53) | (-2.71) | (-2.81) | (-2.84) | (-1.97) | (-1.95) | (-1.94) |
| *DOUTL* | 3.888* | 4.028* | 2.443 | 4.414* | 2.305 | 2.677 | 2.500 | 1.895 | 1.816 |
| | (1.94) | (2.08) | (1.81) | (1.96) | (0.70) | (0.91) | (0.90) | (0.74) | (0.69) |
| *NATRES* | 0.005 | 0.004 | 0.004 | 0.005 | 0.004 | 0.005 | 0.003 | 0.001 | 0.002 |
| | (0.81) | (0.64) | (0.82) | (0.84) | (0.75) | (0.86) | (0.52) | (0.25) | (0.26) |
| *SKILLt-1* | 0.004 | 0.003 | 0.004 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 |
| | (0.48) | (0.45) | (0.51) | (0.45) | (0.45) | (0.40) | (0.37) | (0.35) | (0.41) |
| *EU* | | -1.749 | -0.652 | -0.967 | -0.678 | -1.168 | -0.295 | -0.119 | -0.117 |
| | | (-1.86) | (-0.76) | (-0.75) | (-0.51) | (-0.96) | (-0.25) | (-0.11) | (-0.10) |
| *PORT* | | | 0.641 | 1.105 | 1.040 | 0.910 | 1.584 | 0.927 | 0.913 |
| | | | (0.91) | (1.05) | (0.98) | (-0.96) | (-1.68) | (-0.99) | (-0.97) |
| *SEZ* | | | | 0.393 | 0.827 | 0.585 | 0.452 | 0.100 | 0.095 |
| | | | | (0.36) | (0.69) | (0.54) | (0.45) | (0.10) | (0.10) |
| *POPDEN* | | | | | -0.0001 | -0.0001 | -0.0001 | -0.0001 | -0.0001 |
| | | | | | (-0.88) | (-0.14) | (-0.18) | (-0.14) | (-0.13) |
| *URBAN* | | | | | | 0.064** | 0.054** | 0.056** | 0.055** |
| | | | | | | (2.55) | (2.21) | (2.43) | (2.09) |
| *DIST* | | | | | | | -0.0001** | -0.0001 | -0.0001 |
| | | | | | | | (-2.23) | (-0.79) | (-0.78) |
| *TEMP* | | | | | | | | -0.096 | -0.097 |
| | | | | | | | | (-1.86) | (-1.85) |
| *REG1* | -0.775 | -2.220 | -0.989 | -1.326 | -1.177 | -1.236 | -0.836 | -1.327 | -0.067 |
| | (-0.41) | (-1.11) | (-0.64) | (-0.58) | (-0.51) | (-0.60) | (-0.43) | (-0.73) | (-0.47) |
| *REG4* | -0.798 | -0.103 | -0.413 | -0.282 | -0.511 | -0.210 | -0.503 | -1.125 | -0.041 |
| | (-0.38) | (-0.05) | (-0.30) | (-0.13) | (-0.24) | (-0.11) | (-0.28) | (-0.66) | (-0.17) |
| *REG10* | 2.112 | 2.638 | 1.858 | 2.915 | 3.097 | 2.081 | 1.612 | 1.356 | 1.324 |
| | (1.05) | (1.34) | (1.39) | (1.32) | (1.38) | (1.02) | (0.84) | (0.77) | (0.72) |
| *REG12* | -0.869 | -0.452 | -0.578 | -0.430 | -0.493 | -0.329 | -0.836 | -1.305 | -1.114 |
| | (-0.45) | (-0.24) | (-0.45) | (-0.22) | (-0.25) | (-0.19) | (-0.51) | (-0.85) | (-0.65) |
| *Yr02* | | | | | | | | | -1.355 |
| | | | | | | | | | (-0.76) |
| *Yr03* | | | | | | | | | -1.303 |
| | | | | | | | | | (-0.85) |
| *Constant* | 0.819 | 2.837 | 5.464* | 1.877 | 1.504 | 2.274 | 0.825 | 0.293 | 0.134 |
| | (0.25) | (0.85) | (2.37) | (0.53) | (0.42) | (0.64) | (0.24) | (0.09) | (0.04) |
| *R-sqr* | 0.52 | 0.57 | 0.58 | 0.58 | 0.59 | 0.70 | 0.74 | 0.78 | 0.78 |
| *Obs* | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 | 114 |
| *Df* | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| *Wald* | 65.85*** | 71.74*** | 72.41*** | 71.53*** | 71.85*** | 87.57*** | 100.86*** | 115.50*** | 114.33*** |

***, ** *and* * *indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*
*Note: Robust t-statistics in parentheses.*

# CHAPTER 6:

# FDI, Corruption, and Public Capital

## 6.1 Introduction

It has been argued that in many countries the choice of public investment projects by corrupt politicians is based not on the projects' economic value but the opportunity for bribes presented by these projects (Tanzi and Davoodi, 1998). The purpose of this chapter is to quantify the impact that perceived corruption along with public capital investment have on the volume of accumulated FDI stocks within Russian regions. From a theoretical standpoint, there are many channels through which corruption may deter foreign investors. For instance, high levels of corruption are usually associated with institutional environments that are of poor institutional governance and weak protection of property rights. Also, corruption can act as a tax on foreign investors and therefore lower their incentive to enter a country to the point that they may decide not to invest altogether.

Moreover, as corrupt officials may favour large and un-productive investment projects from which it is easier to extract rents, consequently corrupt countries should also be the ones endowed with a less productive stock of public capital and this may again act as a deterrent for foreign investors. This point has rarely been the object of empirical investigation however as most of the previous studies in the field have focused on the size and the sign of the relationship between FDI and corruption at a country level.

It is well known that corruption and investment in public capital go hand-in-hand together. For instance, public capital projects have frequently been developed to provide opportunities for high-level public officials to gain concessions (Tanzi and Davoodi, 1998). In particular, privatisation and large-scale procurement deals (such as infrastructure projects) often provide little provision for oversight from civil society to ensure that the proceeds of these massive capital transactions reach the treasury and not a corrupt public official prone to looting state reserves.

In our analysis we focus on the inter-regional allocation of FDI inflows in Russia. This is a novelty in itself as most empirical tests of the "corruption – FDI" nexus have employed cross-country data. However, one problem with using cross-country data when trying to disentangle the marginal effect of corruption on FDI is that countries differ greatly not only in the levels of

corruption and stock of public capital but also in the extent of administrative controls on publicly funded programmes of investments in public capital.

Inevitably, the latter fact creates an additional source of heterogeneity that will not simply disappear after introducing a set of country-fixed effects. On the contrary, a regional based data-set can easily control for such differences. While regional governments in federal countries have substantial regulatory and legislative powers to attract foreign investors, at the same time regulatory framework for public investment can be safely assumed to be the same across all the regions within a country.

Russia deserves a special attention as in the mid 90s-early 2000s it has become one of largest recipients of FDI among the transition economies (FIAC, 2006). It is also a federal state composed of 89 regions (in the period between 1995 and 2006). These governments of these regions have broad powers with respect to their fiscal policies, particularly the level and structure of budget spending and are the most important players in the regional institutional setting. Regional governments decide on the structure of the regional administration and government, set the rules for the functioning of the regional economy and are directly responsible for its growth. In this last capacity, they have control over the resources for infrastructural investment programmes in their own region (see a discussion in Chapter 4).

Simultaneously, though, in the context of Russia, there is a strong perception among foreign investors that corruption is one of the main disincentives to invest into the country (FIAC, 2006) and that corruption-related problems are magnified by the country's federal structure: as regional governments have substantial powers to shape laws and regulations that can affect directly foreign investors, these encounter different conditions for business and different degrees of interference by the Russian regional authorities (Ahrend, 2002).

The format of our empirical analysis is as follows. A data-set for 40 Russian regions is observed from 2002 to 2004. For each region and year, we have information on FDI stocks, the public capital investment in transport networks, and telecommunications; and additional economic characteristics of the region (e.g., the size of the regional product market, the regional endowment of natural resources, regional geographic and climate conditions, etc). Since previous empirical papers that have analysed the relationship between FDI and public capital show foreign investors to attach some importance to the presence of good transport and telecommunication

infrastructure[44], the focus of our empirical analysis is on the public capital investment into the latter two.

In addition, we also have information about the perceived levels of corruption of Russian regional governments compiled by TIR in 2002 (see a discussion in Appendix 4). In our analysis, we focus on three dimensions of corruption: administrative corruption, state capture and business capture. As it has been argued earlier (see a discussion in Chapter 5), the difference between the former two is in how the rents generated by the corrupt practices are distributed between the firms and the government officials (for instance, Kauffman et al., 2001). Through state capture, rents are shared by firms and the corrupt officials, while through administrative corruption rents accrue primarily to corrupt public officials. As argued in Chapter 5, in order to extract the maximum rent from the firms' productive activities, bureaucrats can "capture" and control firms. There exists some evidence showing that these types of corruption can influence the volume of FDI inflows into a country/region (see references in Chapter 2 and Chapter 5).

Our analysis is also different in the following way. We intend to model here is the marginal effect of corruption on the probability of an even FDI stock accumulation. Therefore, to model the relationship among FDI, corruption and public capital we use a probability model. A model proposed by Tobin (1958) assumes that the dependent variable has a number of its values clustered at a limited value, usually zero. The Tobit technique uses all observations, both those at the limit value and those above, to estimate a regression line, and it is to be preferred generally over alternative techniques that estimate a line only with the observations above the limit (MacDonald and Moffitt, 1980).

The question we want to answer here is the following: what is the probability that the regions that did not receive any FDI inflows and hence accumulated zero FDI stocks between 2002 and 2004 are also the once that are more corrupt, controlling for public capital investment? The results of the empirical investigation provide an interesting insight into the relationship between corruption, public capital and allocation of FDI across Russian regions. In particular, they give some evidence to suggest that in the presence of high perceived corruption, the impact of public capital expenditures (on transportation and telecommunications) on FDI stocks can be insignificant. Moreover, two faces of corruption (i.e., administrative corruption and state capture) are found to associate with FDI accumulation positively; whereas business corruption is found to be also significant but to affect FDI negatively. These results suggest that to make the economic policy

[44] See also Reynolds et al. (2004) and Coughlin et al. (1991) for the relationship between FDI inflows and telecoms and between transport infrastructures and FDI inflows, respectively.

more effective towards increasing inflows of FDI, a successful FDI policy must be well-integrated with the policy of infrastructural development.

In this chapter we proceed in the following way. The next section 6.2 presents the econometric methodology used in the study. Empirical results are discussed in Section 6.3. Section 6.4 concludes and points at the policy implications.

## 6.2 Empirical Analysis

The Tobit Model was proposed by Tobin (1958) to describe the relationship between a non-negative dependent variable $Y_r$ and an independent variable (or vector) $X_r$. The model supposes that there is a latent (i.e., unobservable) variable $Y^*_r$. This variable linearly depends on $X_r$ via a parameter (vector) $\beta$ which determines the relationship between the independent variable (or vector) $X_r$ and the latent variable $Y^*_r$. A normally distributed error term $\varepsilon_r$ captures random influences on this relationship. The observable variable $Y_r$ is defined to be equal to the latent variable whenever the latent variable is above zero and zero otherwise.

As Wooldridge (2002: 517-520) makes it clear, in this application, there is a variable with quantitative meaning, $Y^*$ and we are interested in the population regression $E(Y^*)$. If $Y^*$ were observed for everyone in the population, we could use OLS etc. However, a data problem arises in that $Y^*$ is censored from above and/or below, i.e., it is not observed for some part of the population. This is the censoring issue we have been discussing. This type of application leads us to the standard censored Tobit model (type 1 Tobit model). A common variation of the Tobit model is censoring at a value $Yr$ different from zero:

(6.1)

$$Y_r = \begin{cases} Y_r^* & if \quad Y_r^* > Y_N \\ Y_N & if \quad Y_r^* \leq Y_N \end{cases}$$

Depending on where and when censoring occurs, other variations of the Tobit model can be obtained. Amemiya (1985) classifies these variations into five categories (Tobit type I – Tobit type V), where Tobit type I stands for the model described above in equation (6.1). Schnedler (2005) provides a general formula to obtain consistent likelihood estimators for this and other variations of the Tobit model.

Tobit I type model is used in the study. In our specification, the dependent variable is $Y_r$ that is equal to $FDI_r$ and is the volume of FDI stocks in a Russian region $r$ and $X_r$ is a vector of variables that affect $Y_r$ or $FDI_r$. The dependent variable is censoring at a value $Y_r$ which is different from zero. Our specification is quite simple. The Tobit model assumes that the observed dependent variables $FDI_{r,t}$ for observations $r = 1, \ldots, 40$ and $t = 2002, 2003, 2004$ satisfy

(6.2)

$$FDI_{r,t} = \max(FDI^{*}_{r,t}, 0)$$

where the $FDI^*$'s are latent variables generated by the classical linear regression model

(6.3)

$$FDI^{*}_{r,t} = \beta' X_{r,t} + \varepsilon_{r,t}$$

with $X_{r,t}$ being a vector of regressors and $\beta$ is the corresponding vector of parameters. The model error $\varepsilon_{r,t}$ is assumed to be independently $N(0;\sigma^2)$ distributed, conditional on the $X_{r,t}$'s. If the relationship parameter $\beta$ is estimated by regressing the observed $FDI_{r,t}$ on $X_{r,t}$, the resulting OLS regression estimator is inconsistent: it will yield a downwards-biased estimate of the slope coefficient and an upwards-biased estimate of the intercept but the likelihood estimator suggested by Tobin for this model is consistent (Amemiya, 1973).

In our empirical model a region (indexed by $r$) either receives/accumulates FDI at time $t$ with positive volume of FDI ($FDI_{r,t} > 0$) or it does not ($FDI_{r,t} = 0$). To determine the relationship between the level of perceived corruption and FDI we formulate a Tobit model in terms of a latent variable model as follows:

(6.4)

$$FDI_{r,t} = \begin{cases} FDI^{*}_{r,t} & if \quad FDI^{*}_{r,t} > 0 \\ 0 & if \quad FDI^{*}_{r,t} \leq 0 \end{cases}$$

where the dependent variable $FDI$ is defined as **FDIST**[45]. The choice of other right-hand side variables can be explained as follows. Our left-hand side (dependent) variable is **FDIST.** The choice of other right-hand side variables can be explained as follows. Theoretically, foreign firms will locate their production according to the relevant costs of production in various locations. Depending on the level of demand in these locations therefore, the optimal stock of foreign

[45] Following Wei (2000).

capital for any firm depends on the scale of demand in the recipient country (the 'market size' hypothesis).

Naturally, to control for the size of the market, the most obvious variable that should be included into our model is GRP per capita. **GRPCAP** therefore controls for the market size adjusted to the regional population, it is measured as GRP per capita lagged one year and is expected to relate positively and significantly to FDI.

Information costs are argued to influence foreign investment decision process[46]. Foreign (unlike domestic) investors, have less knowledge of, and ability to forecast, the economic events in specific regions in the host country (these 'economic events' are controlled by adding two time dummies **YR03** and **YR04**). Because the acquisition of information implies costs, in their decisions foreign investors should be affected from a condition of adverse asymmetry in information costs.

Furthermore, monitoring and controlling activities abroad implies costs of collecting and communicating information, which increase as national boundaries are crossed, because of the "distance" between the head-quarters and the subsidiaries of the MNE. To control for information costs assuming that the smaller the distance in km from a region's capital to the capital of country (Moscow) the smaller the information costs will be and hence more FDI the region will attract and accumulate, **DIST** is included; it is expected to relate negatively to FDI; and be significant.

Empirical literature on FDI in Russia tends to explain the abundance of Russia with natural resources to be the most important factor in attracting foreign capital[47]. Hence, as a control for natural resources, **NATRES** (measured as a ratio of oil, gas and gas condensate extraction in regional GRP) is used; it is expected to relate positively and significantly to FDI.

Foreign investors investing in the regions with cold climate might have to face increased investment costs making some regions within Russia unattractive to potential investors[48]. **TEMP** is used in this study as a proxy for regional climate conditions and is measured as average January temperature in a region; it is expected to relate significantly and negatively to FDI.

As it has been argued before (see Chapter 1 and 3 for the discussion), FDI in Russia has been concentrated near EU borders as well as along coastal borders. Therefore, we also add two additional geographical variables **PORT** and **EU** to control for such polarisation. For our estimation, we use two dummies to control for pubic capital investment into transportation and telecommunication; these are **PUBINROADS** and **PUBINTELS**; we further also use four

[46] For instance, Wei et al. (1999) among others.

[47] For example, McCarthy and Puffer (1997); Hirvensalo and Lausala (2001); Bevan and Estrin (2004); Iwasaki and Suganuma (2005).

[48] See Iwasaki and Suganuma (2005).

infrastructure variables such as **RAILCH**, **ROADCH**, **TELURBCH** and **TELRURCH** to check whether an increase in the government spending on four different public goods has been associated with an increase in FDI stocks. We expect the association between **RAILCH**. **ROADCH**, **TELURBCH** and **TELRURCH** and FDI to be significant and positive.

Our institutional proxies are the three corruption indices collected from TIR (**CORR10-CORR12**, see Chapter 5 for a discussion on the definitions and the difference between the three). Although the relationship between these three indices and FDI can in theory be found negative, we however (based on the findings presented in Chapter 5 and assumptions made earlier) expect that some types of corruption can be associated with FDI positively. **GRPCAP**, **NATRES**, **RAILCH**, **ROADCH**, **TELURBCH** and **TELRURCH** are lagged one year, which may help mitigate some of the simultaneity problems.

Data used in the study are discussed in Appendix 4. Correlation table 4.1 can be found in Appendix 4. Descriptive statistics of all variables used in the analysis by region are presented in Table 4.2 (see appendix 4); whilst descriptive statistics of all variables used is shown in Table 4.3. We table variable used in the study giving their sources and definitions, and explaining the way they were measured in Table 4.4 (see Appendix 4).

## 6.3 Estimation Results and Discussion

The restrictiveness of the availability of corruption data, limits the sample size of the regions used in the analysis to 40 and also the length of the period to just 3 years. We run six models. OLS is used in the first three models. Model (1) regresses FDI on its main determinants without the public capital variables however. We add two public capital variables into Model (1) and run Model (2). To check the robustness of the Model (2), we add two additional variables **YR02** and **YR03** which are the time dummies controlling for all unobservable shocks in the Russia economy between 2002 and 2004 and run Model (3). Basic Tobit model is used in the next three models. Model (4) regress FDI on its main determinants without the public capital variables. We then add two public capital variables into Model (4) and run Model (5). To check the robustness of the Model (5), we add two additional variables **YR02** and **YR03** which are the time dummies controlling for the unobservable shocks in the Russia economy between 2002 and 2004 and run Model (6).

Twenty one per cent of the observation in our data set on FDI has zero values. In particular, we have zero observations for the whole period under investigation for the following 11 regions: Dagestan, Ingushetia Republic, Kalmikia, Northern-Ossetia-Alania, Chechen Republic, Altay,

Tyva, Evenskiy AO, Agino-Buryatskiy AO and Chukotskiy AO[49]. The use of Tobit instead of other methodologies can be justified therefore either by assuming that (i) zero values in our data set are due to the presence of fixed costs of investing abroad, or (ii) stocks of FDI below a certain threshold value are incorrectly recorded as zeros.

The coefficient estimates reported in Table 6.1 are semi-elasticities except for the explanatory variables that were taken in logs (i.e., **GRPCAP**, **CORR10-CORR12**). Therefore, a linear-linear relationship is assumed between FDI stocks and their determinants (with an exception of variables that are taken in logs). Following post estimation results are also reported in Table 6. We first test each model using the Wald test (see page 73 for a brief description of the test). The Wald test is significant at 1% which means that all explanatory variables included in the models are not zero (both jointly – Wald (1) – and individually – Wald (2)), and therefore they should not be excluded from neither of our models. Table 6.1 shows rather high R-sq. in OLS regressions (of 0.75 on average) and Pseudo R-sq. in Tobit regressions (of 0.56 on average). In particular, on average 56% versus 75% of the variation in FDI is explained by the variables specified in Models (1)-(6). The latter is rather a good result which means that a good proportion of independent variables which may be expected in the FDI decision process are taken into account in our models.

We now turn our discussion to the interpretation of the results. Roncek (1992: 503) argues that there is a problem with interpretation of the Tobit analysis because the ordinary output it gives 'provides only one (unstandardised) coefficient for each independent variable, despite the presence of two "types" of cases in the analysis – those with zero on the dependent variable and those with nonzero values. How one can represent the two effects for the latter two types for cases (when one effect is a probability with values between 0 and 1) is not clear'. Moreover, by itself, a Tobit coefficient cannot directly describe these two different effects and as a result, researchers often misinterpret these coefficients (McDonald and Moffitt, 1980: 320). Most commonly made mistake in interpretation is treating the latter as effect of the independent variables on the dependent variable for cases that are above the limit (Walton and Ragin, 1990).

Walton and Ragin (1990) therefore suggest avoiding this error by focusing on the statistical significance of the coefficients and by comparing the sizes of each variable's coefficient across the different Tobit models. McDonald and Moffitt (1980: 320) also explain that the Tobit coefficients themselves are useful as they represent the effects of the independent variables on the

[49] Interestingly, eight of these regions are the ethnic republics and three are the autonomous okrugs (see Chapter 3 for a discussion on the ethnic population within the Russian regions).

latent (unobserved) dependent variable of a Tobit model and do not represent the effects of the independent variables on the observed values of the original dependent variable for any case in an analysis (McDonald and Moffitt, 1980: 319).

**Table 6.1 Marginal Effects of Explanatory Variables on FDI: Parameter Estimates of OLS and Tobit Regressions**

| *Variable* | *OLS Model 1* | *OLS Model 2* | *OLS Model 3* | *Tobit Model 4* | *Tobit Model 5* | *Tobit Model 6* |
|---|---|---|---|---|---|---|
| *Log GRCAPt-1* | 2.042*** | 1.774*** | 5.746*** | 2.042*** | 1.774*** | 5.746*** |
| | (2.96) | (3.46) | (5.76) | (3.04) | (4.19) | (5.68) |
| *NATRESt-1* | 0.025 | 0.516*** | 0.572*** | 0.025 | 0.516*** | 0.572*** |
| | (0.65) | (9.97) | (10.09) | (0.63) | (9.93) | (14.84) |
| *Log CORR10* | 5.817*** | 7.890*** | 12.640*** | 5.817*** | 7.890*** | 12.640*** |
| | (4.45) | (3.68) | (7.73) | (2.79) | (2.65) | (8.74) |
| *Log CORR11* | 2.741*** | 4.330*** | 4.150*** | 2.741** | 4.330*** | 4.160*** |
| | (3.33) | (4.93) | (5.59) | (2.16) | (3.70) | (5.71) |
| *Log CORR12* | -6.235*** | -9.550*** | -16.430*** | -6.235*** | -9.550*** | -16.430*** |
| | (-4.90) | (-3.76) | (-7.10) | (-3.08) | (-2.85) | (-7.91) |
| *TEMP* | 0.077** | 0.088** | 0.269** | 0.077** | 0.088** | 0.269** |
| | (2.26) | (2.76) | (2.37) | (2.47) | (2.59) | (2.23) |
| *DIST* | -0.0002*** | -0.0002*** | -0.0003** | -0.0002*** | -0.0002*** | -0.0003** |
| | (-2.95) | (-3.61) | (-2.08) | (-2.82) | (-4.00) | (-2.07) |
| *EU* | -1.003** | -1.287*** | -1.796*** | -1.003** | -1.287*** | -1.796*** |
| | (-2.01) | (-8.28) | (-3.28) | (-2.00) | (-7.73) | (-3.06) |
| *PORT* | 1.450*** | 2.762*** | 2.571*** | 1.450*** | 2.762*** | 2.571*** |
| | (2.98) | (2.85) | (2.54) | (2.12) | (2.42) | (2.60) |
| *PUBINROADS* | | 0.368 | 0.080 | | 0.368 | 0.080 |
| | | (0.84) | (0.23) | | (0.89) | (0.23) |
| *PUBINTELS* | | -0.261 | -0.411 | | -0.261 | -0.411 |
| | | (-0.40) | (-0.80) | | (-0.37) | (-0.84) |
| *YEAR 2002* | | | 2.358*** | | | 2.358*** |
| | | | (4.39) | | | (4.50) |
| *YEAR 2003* | | | 1.043*** | | | 1.043*** |
| | | | (3.21) | | | (3.63) |
| *Const* | 10.846*** | 10.038*** | 8.978*** | 10.846*** | 10.038*** | 8.978*** |
| | (13.02) | (5.16) | (5.64) | (10.06) | (4.05) | (4.96) |
| *N* | 120 | 40 | 40 | 120 | 40 | 40 |
| *R sq.* | 0.57 | 0.79 | 0.89 | 0.45 | 0.55 | 0.69 |
| *Wald (1)* | 13.72*** | 51.20*** | 31.51*** | 5.86*** | 1563.62*** | 24411.67*** |
| *p>chi2* | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| *Wald (2)* | 12.23*** | 46.55*** | 43.70*** | 5.21*** | 1424.23*** | 24075.25*** |
| *p>chi2* | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |

****, ** and * indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*
*Note: Robust t-statistics in parentheses.*

Table 6.1 shows that our results are robust across the specifications. Since the OLS interpretation is not valid for our analysis, we focus our attention on Tobit coefficients that represent the effect of independent variables on the latent dependent variable (unobserved FDI). The results from specifications in Models (4)-(6) seem to hold: with only an exception of natural resources variable that changes its significance from being insignificant in Tobit I Model (4) to being significant at 1% in Models (5) and (6).

Estimates of Tobit models provided in Table 6.1 are the marginal effects evaluated at the observed censoring rate of the dependent variable. The marginal effects are computed for the dependent variable conditional on the censoring and on the unconditional expected value of the dependent variable. To interpret the coefficients of Tobit analysis, we first focus on the positive or negative sign of the coefficients and whether or not it is statistically significant.

Results suggest that regarding the economic factors, the accumulation of unobserved FDI stocks is positively associated with market size ($p<0.01$), climate conditions ($p<0.05$) and infrastructure associated with sea ports ($p<0.01$). On the other hand, geographical distance ($p<0.01$) and areas near the EU boarder ($p<0.05$) are found to be associated with FDI negatively. Moreover, natural resource abundance is only found to be significant in the presence of the public investment in transportation and telecommunication networks ($p<0.01$).

Regarding the political or institutional factors, all three types of corruption are found to be significant ($p<0.01$). However, administrative corruption and state capture appear to associate with unobserved FDI stocks positively; whilst business corruption does so negatively. The average impact of corruption on FDI is significant and positive. The effect of all unobservable shocks in the Russia economy also appears to be significant and positive (Table 6). The coefficients of the association between FDI stocks and the independent variables seem to increase and be strongest in Model (6) but this change does not result in a loss of significance.

An examination of the results of the marginal effects of the independent variables on FDI stocks within Russian regions indicates the following. On average, an additional increase in market size and climate conditions (temperature) increases the stock accumulation of FDI by 5.7% and 0.3% respectively; an additional increase in natural resources (the proportion of oil and gas extraction over GDP) and geographical distance (in Km) decreases the stock accumulation of FDI by 0.6% and 0.0003% respectively; whilst an additional increase in the proximity to the EU borders decreases the stock accumulation of FDI by 1.8%.

Furthermore, an additional increase in the number of sea ports in a region increases the stock accumulation of FDI by 2.5%; whereas an additional increase in unobservable shocks in the regional economies in 2002 and 2003 years increase the FDI stocks by 2.3% and 1.04%

respectively. Finally, state capture is found to have the strongest (and negative) effect on the unobserved FDI stocks with an additional increase in state capture leading to a 16.4% decrease in FDI. One the one hand, an additional increase in administrative corruption is found to increase FDI stocks by 12.6%; on the other hand, an additional increase in business corruption is found to increase the FDI stocks by 4.2%.

Our results give a number of interesting insights on the relationship between corruption and [unobserved] FDI. Firstly, public capital investment in either transportation or telecommunication infrastructures does not seem to influence the MNEs' willingness to invest into a region. Such decisions are however driven by (i) economic factors (namely, size of the product market and availability of natural resources; and geography) as well as (ii) political economy factors (namely, corruption). Although business corruption seems to be associated with FDI negatively, the marginal impact of other two types of corruption (i.e., state capture and administrative corruption) on FDI appears to be significant and positive. The latter finding means that corruption can in fact stimulate FDI inflows.

However, as corruption is a multi-faceted phenomenon, the direction of the impact seems to vary according to the type of corruption under consideration. Our results suggest that regions with high levels of state capture and administrative corruption appear to attract more of unobservable FDI inflows than the others. The latter suggestion means that foreign investors can in reality decide to extract a rent themselves from this system by actively trying to shape and influence the policy-making process.

Thirdly, as the public investment in transport and telecom infrastructures appear to be insignificant, what this means is that expansions in road, rails or the telecommunication networks are not accompanied by an increase of the volume of FDI inflows into regions with high levels of corruption. This result casts some doubt on the productivity of the investment in road, rails or the telecommunications in these regions as bureaucrats may prefer to use these infrastructural projects for rent extraction.

We next control for endogeneity of corruption by running instrumental variable (IV) Tobit two-step instrumental procedure we allows us to use models with continuous endogenous regressors. Six models are run. We start by estimating the impact of each of three corruption indices on FDI and the Models (1)-(3). We then add our time dummies into these models to check the robustness of the estimation (Models (4)-(6)). Model (1) regress FDI on its main determinants with four public capital variables. Results are presented in Table 6.2.

**Table 6.2 Marginal Effects of Explanatory Variables on FDI: Parameter Estimates of Tobit IV Regression**

| | IVTobit Model 1 | IVTobit Model 2 | IVTobit Model 3 | IVTobit Model 4 | IVTobit Model 5 | IVTobit Model 6 |
|---|---|---|---|---|---|---|
| *LogCORR10* | 8.377*** | | | 8.300*** | | |
| | (3.82) | | | (3.87) | | |
| *LogCORR11* | | 10.152** | | | 9.986** | |
| | | (2.74) | | | (2.79) | |
| *Log CORR12* | | | 10.265** | | | 10.210** |
| | | | (2.63) | | | (2.65) |
| *LogGRPCAPt-1* | 1.451** | 1.691** | 1.434** | 1.611** | 1.968** | 1.532** |
| | (2.97) | (2.37) | (2.02) | (2.53) | (2.10) | (2.66) |
| *OILGRPt-1* | 0.017 | 0.019 | 0.019 | 0.008 | 0.003 | 0.013 |
| | (0.51) | (0.41) | (0.39) | (0.20) | (0.06) | (0.23) |
| *TEMP* | -0.051 | -0.041 | -0.095 | -0.047 | -0.034 | -0.093 |
| | (-1.26) | (-0.73) | (-1.49) | (-1.15) | (-0.61) | (-1.44) |
| *DIST* | -0.0001** | -0.0002** | -0.0001** | -0.0002** | -0.0001** | -0.0001** |
| | (-2.93) | (-2.53) | (-2.23) | (-2.93) | (-2.55) | (-2.22) |
| *EU* | -0.114 | -0.361 | -0.178 | -0.098 | -0.381 | -0.186 |
| | (-0.18) | (-0.41) | (-0.20) | (-0.16) | (-0.43) | (-0.20) |
| *PORT* | 2.221*** | 1.603* | 2.475** | 2.160*** | 1.505* | 2.437** |
| | (3.81) | (1.98) | (2.85) | (3.64) | (1.99) | (2.76) |
| *RAILCHt-1* | 0.007*** | 0.006** | 0.011*** | 0.007** | 0.006** | 0.011*** |
| | (3.36) | (2.21) | (3.34) | (3.28) | (2.24) | (3.32) |
| *ROADCHt-1* | -0.126 | -0.065 | -0.100 | -0.124 | -0.062 | -0.099 |
| | (-1.05) | (-0.41) | (-0.58) | (-1.03) | (-0.39) | (-0.58) |
| *TELURBCHt-1* | -0.015 | -0.020 | -0.025 | -0.015 | -0.019 | -0.025 |
| | (-0.95) | (-0.89) | (-1.05) | (-0.93) | (-0.88) | (-1.04) |
| *TELRURCHt-1* | 0.043 | 0.070 | 0.049 | 0.044 | 0.072 | 0.050 |
| | (0.76) | (0.91) | (0.60) | (0.79) | (0.94) | (0.61) |
| *Yr 2003* | | | | -0.053 | -0.117 | -0.003 |
| | | | | (-0.12) | (-0.19) | (-0.00) |
| *Yr 2004* | | | | -0.233 | -0.410 | -0.140 |
| | | | | (-0.43) | (-0.53) | (-0.18) |
| *Constant* | 11.708*** | 15.886*** | 12.763*** | 11.958*** | 16.266*** | 12.898*** |
| | (5.84) | (3.81) | (3.91) | (5.31) | (3.64) | (3.60) |
| *Obs* | 108 | 108 | 108 | 108 | 108 | 108 |
| *Dfres* | 11 | 11 | 11 | 13 | 13 | 13 |
| *Wald(1)* | 61.70*** | 31.62*** | 29.19*** | 62.26*** | 32.29*** | 29.20*** |
| *Wald(2)* | 26.28*** | 30.05*** | 35.35*** | 27.86*** | 31.52*** | 37.11*** |

****, ** and * indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*
*Note: Robust t-statistics in parentheses.*

The coefficient estimates reported in Table 6.2 are semi-elasticities except for the explanatory variables that were taken in logs (i.e., **GRPCAP**, **CORR10-CORR12**). Therefore, a linear-linear relationship is assumed between FDI stocks and their determinants (with an exception of variables that are taken in logs). We test each model using two variations of the Wald test (see page 73 for a brief description of the test). Wald (1) examines the joint significance of the

explanatory variables; whereas Wald (2) examines the individual significance of these variables. Both Wald tests are significant at 1% which means our explanatory variables included in the models are not zero, and therefore they should not be excluded from neither of our models.

In IV Tobit estimation, exogeneity test of instrumented variables has also been conducted. If the test statistic is not significant, there is not sufficient information in the sample to reject the null hypothesis of no endogeneity. The variables instrumented are corruption measures (CORR10-CORR12). The instrumental variable is **ETHNIC**.

In attempting to measure the extent to which institutions and corruption in particular have an impact on FDI stock accumulation, it is important to realise that institutions (hence, corruption) and FDI may evolve jointly: corruption impacts the economic performance of a region and FDI in particular; meanwhile FDI has an impact on corruption which can potentially lead to an endogeneity problem.

We correct such problem by using ethno-linguistic fractionalisation index (**ETHNIC**) as an instrument[50] in our estimation (see Appendix 4 on the way it is measured). The reason why ETHNIC can be used as a valid instrument is because it is highly correlated with corruption (>0.7, see Table 4.1 in Appendix 4) but can be assumed to be exogenous both to economic variables and to institutional efficiency (see Mauro, 1998 for a discussion on the relevance).

Estimates of Tobit models provided in Table 6.2 are the marginal effects. Results in Table 6.2 show that, once instrumented, CORR12 (business capture) change its sign: it becomes positively correlated with FDI. This change in the opposite direction can result either by the use of a new estimator (i.e., IV Tobit estimator that controls for endogeneity of corruption). It could also however be due to the different type of the analysis we use (i.e., conditional on log of CORR10 and log of CORR11 and unconditional IV Tobit analysis).

These results are satisfactory and robust suggesting that regarding the economic factors, the accumulation of unobserved FDI stocks is associated with market size ($p<0.05$), distance ($p<0.05$), infrastructure associated with sea ports ($p<0.05$), transportation such as railways ($p<0.05$) and corruption ($p<0.05$). With the exception of geographical distance (which is found to be related to FDI negatively), all other significant variables are associated with FDI positively.

Interestingly, when corruption is treated as endogenous all three proxies are observed to have a positive impact on FDI, with a stronger impact of state capture among the three. The average impact of corruption on FDI is significant and positive. An examination of the results of the

[50] This approach is similar to Mauro (1998) in which he uses an index which measures the probably that two people drawn at random from a country's population will not belong to the same ethno-linguistic group.

marginal effects of the independent variables on FDI stocks within Russian regions indicates the following. On average, an additional increase in market size increases the stock accumulation of FDI by 1.5%; whilst an additional increase geographical distance (in Km) decreases the stock accumulation of FDI by 0.0001%; an additional increase in the number of sea ports increases the stock accumulation of FDI by 2.1%; an additional increase in the length of railways increases the stock accumulation of FDI by 0.08% and an additional increase in the level of perceived corruption increases FDI stock by 9.6%.

Although public capital investment in railways seems to influence the MNEs' willingness to invest into a region, the impact of the change in any of the other three infrastructures does not seem to influence FDI. What this means is that expansions in road and the telecommunication networks are not accompanied by an increase of the volume of FDI inflows into regions with high levels of corruption (which confirms our previous findings). This result again casts uncertainty on the productivity of the investment in road and telecommunications in these regions.

## 6.4 Conclusions

This chapter investigated further the role that corruption and variations in public capital infrastructures have on the accumulation of the FDI stocks within a country, after both the core economic factors and some political factors have been controlled for. In particular, the role of public capital investments on transportation and telecommunication infrastructures in explaining the attractiveness of a region as a host for foreign production by foreign investors is evaluated in the framework of the model of FDI location. As such, this investigation adds to a stream of the IB literature on FDI factors of distribution within countries and transition economies in particular. The analysis was conducted by using the data set for 40 Russian regions between 2002 and 2004, applying two types of Tobit probability model with a latent dependent variable (stocks of FDI). The empirical analysis has produced a few interesting results.

Firstly, foreign investors' decisions to invest into a region within Russia are found to be driven by the levels of (two dimensions of) corruption but not by the increase in public expenditures on roads, rails and telephone lines by regional governments. Marginally, corruption (with an exception of business corruption) does appear to increase FDI. Secondly, regions with high levels of state capture and administrative corruption seem to attract more of unobservable FDI than the others. This shows that in countries with a weak governance framework, foreign companies are not afraid of being involved in corrupt practices and at same time they even magnify the

problems of "petty" corruption and state capture. Thirdly, it appears that expansions in the road, rail and telecommunication networks are not accompanied by an increase of the volume of FDI. This result casts some doubt on the productivity of the public investment in these regions: as corruption is found to be a stimulus to FDI, bureaucrats may prefer to use these infrastructural projects for rent extraction leading to the infrastructure deterioration as a result.

When corruption is treated as endogenous however, foreign investors' decisions to invest into Russian regions seem to be driven by corruption as well as by an increase in public expenditures on railways. Marginally, these results do confirm that corruption can increase FDI. Regions with high levels of state capture seem to attract more of unobservable FDI than the others.

The limitations of this study can be argued to be the following. The standard interpretation of Tobit coefficients we have used in our analysis has only allowed us to focus on the magnitude, direction, and significance of the coefficients. Although such interpretations helped us to verify theory, confirm prior research, and provided information on the effect of independent variables on our dependent variable, collectively however they provide no information on the source of the change in the dependent variable. To estimate and understand the latter, more sophisticated techniques should be used. Therefore, an expansion of the study would be to use a different approach to such investigation (for example, McDonald and Moffitt (1980) Decomposition Approach).

# CHAPTER 7:

# FDI, Corruption and Decentralisation

## 7.1 Introduction

The purpose of this chapter is to understand the relationship between government decentralisation, perceived corruption and accumulation of FDI stocks within a country. The topic is interesting for the following key reasons. Firstly, we do not know exactly whether decentralisation increases or decreases corruption (Tanzi, 2000; Treisman, 2000). Development literature has suggested that corruption may be sensitive to the design of the relations between (and within) different levels of government (Shleifer and Vishny, 1993; Prud'homme, 1995; Oates, 1999; Treisman, 2000; Bardhan, 2002).

Those in favour of devolving powers of revenue collection and expenditure to local authorities have been guided to a large extent by the rationale, first expressed by Tiebout (1956), that decentralisation leads to a greater variety in the provision of public goods, which are tailored to better suit local populations. Conversely, Prud'homme (1995) and Tanzi (1996) have argued that there exist many imperfections in the local provision of services that may prevent the realisation of benefits from decentralisation. For instance, local bureaucrats may be poorly trained and thus inefficient in delivering public goods and services.

Recent theoretical models make opposing predictions on the relationship between decentralisation and corruption: some argue that decentralisation should improve the quality of government as it brings officials "closer to people", encouraging competition between governments for mobile resources. Others contend decentralisation to create coordination problems, enhance incentives for officials to predate and generate roadblocks to any change from the status quo (Treisman, 2000). That is, models that emphasise inter-jurisdictional competition or direct monitoring of bureaucrats generally favour decentralisation while those that focus on coordination of rent-seeking or bureaucratic competence often take a negative view of decentralisation.

Furthermore, the type of decentralisation often matters in these models: in particular, whether revenue generation and expenditure, or just expenditure, is decentralised, will influence the extent of bureaucratic corruption. This extent is also influenced in some models by the degree of decentralisation of a country in terms of a number of governmental officials. Thus, while there is

a general belief that decentralisation and government corruption are closely linked, theories differ however in their predictions of what the net relationship between them should be[51].

Secondly, we also do not know whether a larger extent of decentralisation has a positive or negative impact on FDI distribution (Canfei, 2006; Kessing et al., 2007). The risk of opportunism of host governments (e.g., expropriation by confiscatory taxation, tightened regulatory policies, extortion, or nationalisation) is considered to be one of the quintessential obstacles to FDI. This risk is also considered to be a key factor in explaining international capital flows, or the lack of such flows, in particular to developing and transition countries[52].

*World Development Report 2005* focuses on measures to foster investment highlighting decentralisation of policy decision-making as conducive to attracting FDI because decentralisation "permits a degree of institutional competition between centers of authority that can . . . reduce the risk that governments will expropriate wealth" (World Bank, 2004: 53). Such recommendations are rooted in the view that inter-jurisdictional competition could be a welcome supplement to inadequate constitutional constraints and imperfect political institutions (for example, see Brennan and Buchanan, 1980). If capital is mobile between regions, competition between the regions within a federation exerts competitive pressure on each region to provide good governance (Kehoe, 1989).

Facing different institutional environments within country foreign investors are assumed to react either by adjusting their strategies to local institutions or by choosing to locate where institutions are most conducive to their type of business operations. Regional decentralisation and its associated economic and political institutions are therefore expected to influence allocation of FDI stocks at the sub-national level. The existing literature however has not paid sufficient attention to this issue. Finally, the relationship between decentralisation, corruption and FDI has not received any attention over recent decades. This is strange as corruption might be seen as a

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[51] Pioneering work on the theoretical relationship between state structure and corruption includes Rose-Ackerman (1978) and Shleifer and Vishny (1993).

[52] A foreign investor who identifies a profitable investment opportunity in a country has to invest some capital in this country and wait for the returns to accrue. Prior to the investment the country's government may be willing to promise the investor to keep the returns. However, for instance, confiscation is optimal from the perspective of the government and may occur ones the investment has been made. As a result, investors who anticipate this will under-invest or not invest at all. This is the hold-up problem in FDI and many of its aspects have been extensively studied by Thomas and Worrall (1994), Doyle and van Wijnbergen (1994), Erbenová and Vagstad (1999), Janeba (2000), Konrad and Lommerud (2001), and Schnitzer (1999) among others.

consequence of a global trend towards decentralisation, most notably in developing and transition economies[53].

As we have argued, there are a number of reasons for focusing on Russia. Its transition from planned to market economy has been characterised by an increasing process of decentralisation that lacked a clearly defined strategy. Although regional and local authorities were granted the right to independently plan their respective budgets (in line with the reform concept, a significant portion of expenditure responsibilities were assigned to RF regions and municipalities), at the same time the federal centre retained the majority of revenue sources – a feature that is more likely to be found in unitary (centralised) states (see discussion in Chapter 4).

Econometrically, we model the relationship among FDI, corruption and decentralisation by applying a system of simultaneous equations method (SEM) using data-set of 40 regions observed over the period 2002-04. The restrictiveness of the availability of corruption data, limits the sample size of the regions used in the analysis to 40 and the length of the period to 3 years. For each region, information on FDI (stocks), additional economic characteristics of the region and the perceived levels of regional corruption (observed only in 2002) are used.

The SEM model has two equations: a foreign investment equation and a corruption equation. The first (FDIST) equation regress the regional FDI stocks on a standard set of FDI determinants and the TIR indices of corruption. The second (CORR*) equation regresses the regional levels of perceived corruption on a standard set of determinants of corruption found in the literature.

The main results are as follows. Overall, the empirical analysis provides strong evidence to support the argument that regional decentralisation impedes the accumulation of FDI stocks, facilitating corruption simultaneously. The conclusion that can be made therefore is that, although theoretically devolution of power to local governments may encourage foreign investment, this 'encouragement' however is found to be achieved by an increase in the rent-seeking power of the governmental officials.

Results show that FDI and corruption have become increasingly inter-determined in relatively recent years. Such a relationship can then be argued to have resulted from decentralisation. These findings are interesting and although they contradict the findings of the previous studies, they are consistent with our previous findings (see Chapters 5 and 6). That is, corruption is found

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[53] In the case of developing countries, the decision to redefine the relations between government levels was mainly driven by the recommendations from international organisations such as the World Bank and the United Nations. The main objectives behind such recommendations were those of promoting development through the rearrangement of fiscal, political and administrative relations between governments and strengthening civil and democratic institutions.

to be a stimulus for FDI, supporting the argument that it can help foreign investors to avoid regulatory and administrative restrictions (Schleifer and Vishny, 1993).

This chapter is organised as follows. Section 7.2 explains econometric methodology used in the study. The results are interpreted in Section 7.3. Section 7.4 concludes and points at the policy implications.

## 7.2 Empirical Analysis

### *Model Specification*

Econometrically, we estimate the following model:

(7.1)

$$FDIST_r = Const + \alpha_0 \cdot CORR_r + \alpha_1 \cdot X' + \varepsilon_r$$

(7.2)

$$CORR^*_r = Const + \beta_0 \cdot FDIST_r + \beta_1 \cdot Z' + \upsilon_r$$

where $FDIST_r$, is the volume of cumulative FDI stocks[54] in a Russian region $r$; $CORR^*_r$ is the perceived level of (three types of) corruption in a Russian region $r$; $X'_r$ is a vector of variables that affect $FDIST_r$; and $Z'_r$ is a vector of variables that affect $CORR^*_r$; $\varepsilon_r$ and $\upsilon_r$ are the error terms, and * stands for a number of corruption indices.

In Equation (7.1) and (7.2), the endogenous variables FDIST and CORR* are a function of each other, as well as being a function of other specified variables for FDI and corruption (with decentralisation as a key one). The dependent variable is FDIST stocks between 2002 and 2004 sourced from Goskomstat RF (2005). As measures of the regional governments' corruption, three indices of perceived corruption elaborated by Transparency International-Russia (2002) are used: administrative corruption (**CORR10**), state capture (**CORR11**) and business capture (**CORR12**)[55].

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[54] Following Wei (2000).

[55] As was discussed before in both Chapter 5 and 6, it is important to distinguish between these three types of corruption as the magnitude and significance of their impact on FDI can vary. Therefore, state capture proxied by CORR11 captures the effect on FDI of the formulation of the laws and regulation through private payments to public officials and politicians; administrative corruption proxied by CORR10 captures the impact on FDI of the "petty" forms of bribery (in connection with the implementation of laws, rules and regulations); whilst business capture proxied by CORR12 captures the impact on FDI of the ability of, bureaucrats to "capture" and control MNEs in order to extract the maximum rent from the firms' productive activities.

Based on the literature (see Chapter 2), the relationship between FDI and corruption is estimated controlling for the following regional characteristics: market size (**GRPCAP**), information costs (**DIST**), natural resources endowment (**DOIL**), climate (**TEMP**), political/institutional status of a region (**DREP**), policy framework (**SEZ**), corruption (**CORR6**), an extent of decentralisation (**DECLABCAP**), urbanisation (**URBAN**), an extent of regulation (**IND**) and population (**POP**).

1). The level of FDI stocks ($FDIST_r$), taken in log, in a region $r = 1, \ldots, 40$ is determined by the level of corruption, an extent of decentralisation as well as other economic and political economy factors. Variables that affect **FDIST** are the following: CORR* (i.e., **CORR10-CORR12**), **GRPCAP**, **DIST**, **DOIL**, **TEMP**, **DREP**, **SEZ**, **DECLABCAP**, **URBAN**, **IND** and **POP**. Significantly positive relationship is expected to be found between FDIST and corruption. GRPCAP and DECLAB are lagged one year which may also help to mitigate some of the simultaneity and endogeneity problems.

2). The perceived level of corruption ($CORR^*_r$), taken in log, in a region $r = 1, \ldots, 40$ is determined by the level of accumulated FDI stocks, an extent of decentralisation as well as other economic and political economy factors. Variables that affect **CORR10-CORR12** are the following: **FDIST**, **GRPCAP**, **DIST**, **DOIL**, **TEMP**, **DREP**, **CORR6**, **DECLAB**, **URBAN**, **IND** and **POP**. Significantly positive impact of FDIST on CORR* is expected. GRPCAP and DECLAB are lagged one year which may also help to mitigate some of the simultaneity and endogeneity problems.

The reason for including (three types of) corruption on the right-hand-side in the model has been explained throughout the dissertation. The choice of other explanatory variables can be explained as follows. We expect that foreign investors will locate their production facilities in those locations where the demand level is high and the relevant costs of production are low in various locations.

To control for market size in the FDI equation, therefore, we use GRP per capita (**GRPCAP**). As almost all available evidence would appear to suggest that corruption varies with the level of income (see, among others, Mauro, 1995; Tanzi, 1996; and Paldam, 2003), we add GRP per capita to the corruption equation to control for the impact of regional wealth on corruption. GRP per capita is measured at average deflated annual rate and expected to relate positively to FDI and negatively to corruption.

As argued before, 'wealthy' consumers are likely to be found in large cities, therefore **URBAN** is used to control for the urbanisation factor in both equations (see also the discussion on urbanisation economies/Jacobs diversification in Chapter 5). Regarding FDI, we expect that URBAN will have a positive impact on the accumulation of FDI in a region. We include

URBAN to the corruption equation to examine whether the wealthy regions are also once that are corrupt with an expectation that this is the case in Russia.

Information costs are argued to influence foreign investment decision process (for instance, Wei et al., 1999 among others). To control for information costs assuming that the smaller the distance in km from a region's capital to the capital of country (Moscow) the smaller the information costs will be (and hence more FDI the region will attract and accumulate), **DIST** as physical distance from Moscow is included. Regarding corruption, regions located further from Moscow city are expected to be more corrupt as they are located farther from the centre and hence their control from the centre is lessened. Hence, DIST is expected to relate negatively to FDI and positively to corruption.

Empirical literature on FDI in Russia tends to explain the abundance of Russia with natural resources to be the most important factor in attracting foreign capital (McCarthy and Puffer, 1997; Bevan and Estrin, 2004). Hence, our assumption here is that regions of Russia rich in natural resources attract more FDI (Hirvensalo and Lausala, 2001; Iwasaki and Suganuma, 2005). Natural resource endowments have also featured in cross-country studies of corruption; the justification here being that the concentration of exports on natural resources is a proxy for rent-seeking opportunities.

For example, Ades and Di Tella (1999) suggest that corruption may offer greater gain to officials who exercise control over the distribution of the rights to exploit these natural resources. Treisman (2000) finds that a higher concentration of natural resource exports has a positive effect on perceived corruption. We use a dummy variable (**DOIL**) in both equations as a proxy for natural resources abundance; it takes a value =1 for the regions in which between 2002 and 2004 there were any amount of oil and gas condensate extracted, and 0 otherwise. It is, therefore, expected to relate positively to both FDI and corruption.

Foreign investors investing in the regions with cold climate might have to face increased investment costs making some regions within Russia unattractive to potential investors (Iwasaki and Suganuma, 2005). A proxy for climate used in this study is measured as the average annual regional January temperature (**TEMP**); it controls for the difference in climate conditions among the regions. Although we expect TEMP to influence foreign investors positively, the impact of TEMP on corruption is uncertain.

The ethnic dimension of the country's federal structure has been argued to affect corruption (Dininio and Orttung, 2005). Twenty one of Russia's 88 constituent units are designated as *republics* specifically established for a minority ethnic group, while others simply are defined territorially and do not favour any particular group. These ethnic republics enjoy greater

independence from federal influence than do the oblasts and krais (see Chapter 3 for a discussion). Created under the Soviet policy of permitting greater local autonomy for ethnically non-Russian enclaves, the Russian republics have a tradition of relative independence which increased during early transition.

Whereas Moscow generally maintained the right to appoint regional governors, republican presidents were usually chosen by local elites or popular elections. Republics also generally size greater control over their regional natural resource endowments and capital stocks. One would expect the ethnically defined regions to have higher levels of corruption since they benefit one ethnic group over everyone else (Hale, 2003).

Following Dininio and Orttung (2005), we use a dummy **DREP** taking value of 1 for regions that are republics and 0 otherwise, to determine if there is any correlation between their federal status and the levels of corruption. It is expected that DREP relates positively to corruption; yet it is also expected that it may relate positively to FDI stock accumulation as republics might have more power and willingness to attract FDI.

Different regional policies towards foreign direct investors can explain uneven distribution of FDI within a country (Broadman and Recanatini, 2002; Iwasaki and Suganuma, 2005). To control for the effect of the favours offered to foreign investors, **SEZ** is added, which is a dummy variable that takes value 1 if there is a SEZ in a region; and 0 otherwise. As SEZs are used to stimulate private investment and economic development through preferential government policies, it is expected to have a significant and positive impact on FDI. SEZ is only added to FDI equation.

**CORR6**, which is a General Index of Public Trust that built on responses from firms questioned about their confidence in different public sector organisations at all levels (i.e., federal, regional and local/municipal authorities) is added as an instrument for corruption. CORR6 is only added to corruption equation. Public trust index is expected to relate negatively to corruption. We also expect that higher trust that firms have towards regional authorities may be associated with lower corruption level in a region.

Different measures of decentralisation that exist reflect different definitions. In this study we use a measure similar to the one used by Arikan (2004) which is the ratio of government employees to total government employment. Although this measure is used for the first time by Arikan (2004), it is argued to be highly correlated with the other measures of decentralisation. It is expected that this variable relates positively to both FDI and corruption.

To control for the extent of regulation in terms of the special favours granted by regional legislators and regulators to a number of firms in those regions, **IND** is added to the model. We

assume that firstly the higher the preferential treatment a particular firm gets in a particular region the less FDI the region will attract and hence the lower the stock of FDI will be accumulated in a region (see a discussion in Chapter 4), as foreign investors would be discouraged by the 'unfair' treatment by regulators. Regarding the impact of IND on corruption, it is uncertain whether IND will increase or decrease corruption.

Finally, population is found in some studies to be a significant determinant not just of FDI but also of corruption (Ades and Wacziarg, 1997; Fishman and Gatti, 2002). The direction of the impact is still however ambiguous. For instance, Brunetti and Weder (2003) and Knack and Azfar (2003) show that as population increases, corruption also raises, while Tavares (2003) reports that population affects corruption negatively. We add **POP** to both equations with the expectation that it relates positively both to FDI and corruption.

Data used in the study are discussed in Appendix 4. Table 4.1 shows the correlation of the variables used in the study. Descriptive statistics of all variables used in the analysis by region are presented in Table 4.2; whilst descriptive statistics of all variables used is shown in Table 4.3. We table variable used in the study giving their sources and definitions, and explaining the way they were measured in Table 4.4 (see Appendix 4).

### *Model Identification*

Many theoretical models that are econometrically estimated consist of more than one equation. In this case, the disturbance terms of these equations are likely to be contemporaneously correlated, because some unconsidered factors that influence the disturbance term in one equation probably influence the disturbance terms in other equations of this model, too. Ignoring this contemporaneous correlation and estimating these equations separately leads to inefficient parameter estimates. However, estimating all equations simultaneously, taking the covariance structure of the residuals into account, leads to efficient estimates.

Another reason to estimate an equation system simultaneously is cross-equation parameter restrictions. These restrictions can be tested and/or imposed only in a simultaneous estimation approach. Furthermore, these models can contain variables that appear on the left-hand side in one equation and on the right-hand side of another equation. Ignoring the endogeneity of these variables can lead to inconsistent parameter estimates. This simultaneity bias can be circumvented by applying a Three-Stage Least Squares (3SLS) estimation of the equation system.

The problem of identification precedes the problem of estimation. The so-called order and rank conditions of identification provide a systematic route. A SEM can be exactly identified (i.e., the case when there is the same number of endogenous and exogenous variables), over-identified

(i.e., the case when there is more exogenous than endogenous variables in the system), and under-identified (i.e., the case when there is less exogenous than endogenous variables in the system)[56]. The identification, however, means exact identification or over-identification. In the case of un-identification or under-identification, no matter how extensive the data are, structural parameters cannot be estimated (Gujarati, 2003).

We use both the Order Condition and the Rank Condition of identifiability. The order condition is stated as follows: in a model of M[57] simultaneous equations (i.e., 2) in order for an equation to be identified, it must exclude at least M-1 variables (i.e., 2) (endogenous as well as predetermined) appearing in the model. If it excludes exactly M-1 variables, the equation is just identified. If it excludes more than M-1 variables, it is over-identified. The rank condition is stated as follows: in a model containing M equations and M endogenous variables, an equation is identified if and only if at least one nonzero determinant of order (M-1)(M-1) can be constructed from the coefficients of the variables (both endogenous and predetermined) excluded from that particular equation but included in the other equations of the model.

If there is no simultaneous equation, or simultaneous problem, the OLS produce consistent and efficient estimators. If there is simultaneity however, OLS estimators are inconsistent. The 3SLS will give estimators that are consistent and efficient in this case. However, if we apply the 3SLS and there is no simultaneity, 3SLS will yield estimators that are consistent but not efficient (Gujarati, 2003). Therefore, the simultaneity problem needs to be detected the OLS is discarded in favour of the alternative methods.

Simultaneity problem is due to the fact that some of the repressors are endogenous and are hence likely to be correlated with the disturbance term. That is why a test of simultaneity is a test of whether (an endogenous repressors) is correlated with the error term. If it is, there is simultaneity and the alternative methods to OLS should be used; if it not, we can use OLS.

A number of tests were used to confirm the validity of our model. The results of these tests are presented at the bottom of the. Firstly, to examine whether there exists an endogenous relationship between FDI and corruption, the Durbin-Wu-Hausman (DWH) test is used. DWH test is an augmented regression test which is performed by including the residuals of each endogenous right-hand side variable, as a function of all exogenous variables, in a regression of the original model (Davidson and MacKinnon, 1993).

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[56] Davidson and MacKinnon (1993), pp. 237-240.

[57] This is a number of endogenous variables in the model.

## Table 7 Parameter Estimates of 3SLS: FDI, Corruption and Decentralisation

| | *3SLS (1)* | | *3SLS (2)* | | *3SLS (3)* | |
|---|---|---|---|---|---|---|
| | *logFDIST* | *logCORR10* | *logFDIST* | *logCORR11* | *logFDIST* | *logCORR12* |
| *logCORR10* | 10.383*** | | | | | |
| | (3.79) | | | | | |
| *logCORR11* | | | 13.783*** | | | |
| | | | (2.67) | | | |
| *logCORR12* | | | | | 14.645*** | |
| | | | | | (2.89) | |
| *logFDIST* | | 0.067*** | | 0.079*** | | 0.021*** |
| | | (4.04) | | (4.01) | | (4.12) |
| *logGRPCAPt-1* | 0.949*** | -0.078*** | 1.389*** | -0.104*** | 1.520** | -0.082*** |
| | (3.52) | (-3.95) | (2.80) | (-4.48) | (2.44) | (-3.71) |
| *DIST* | 0.001*** | -0.001*** | 0.001** | -0.001** | 0.001** | -0.001** |
| | (5.15) | (-5.51) | (2.40) | (-1.82) | (1.96) | (-1.83) |
| *DOIL* | -1.970*** | 0.201*** | -1.605** | 0.114*** | -3.868** | 0.283*** |
| | (-3.34) | (6.41) | (-2.21) | (3.10) | (-2.24) | (8.06) |
| *TEMP* | 0.271*** | -0.024*** | 0.181*** | -0.014** | 0.198*** | -0.01** |
| | (6.44) | (-5.22) | (3.66) | (-2.53) | (3.41) | (-1.95) |
| *DREP* | -0.588* | 0.063* | -2.328** | 0.168*** | -1.736** | 0.130*** |
| | (-1.45) | (1.71) | (-2.47) | (3.86) | (-1.91) | (-3.13) |
| *SEZ* | 0.684* | | 0.889* | | 1.584** | |
| | (1.67) | | (1.54) | | (2.62) | |
| *CORR6* | | -0.565* | | -0.118* | | -0.928** |
| | | (-1.54) | | (-1.66) | | (-2.11) |
| *logDECLABCAPt-1* | -3.902*** | 0.301*** | -3.766*** | 0.289*** | -5.694*** | 0.266*** |
| | (-6.20) | (4.62) | (-4.32) | (3.78) | (-3.66) | (3.65) |
| *URBAN* | 0.131*** | -0.009*** | 0.042** | -0.004** | 0.130*** | -0.003** |
| | (7.36) | (-5.02) | (2.29) | (-1.73) | (4.43) | (-1.65) |
| *logIND* | -0.039 | -0.01 | -0.683* | -0.047** | -0.237 | -0.007 |
| | (-0.20) | (-0.63) | (-1.63) | (-2.47) | (-0.74) | (-0.37) |
| *POP* | -0.002*** | 0.000*** | -0.001*** | 0.000*** | -0.002*** | 0.000*** |
| | (-4.73) | (7.36) | (-3.05) | (3.82) | (-2.80) | (6.56) |
| *Constant* | -8.239*** | 0.604** | -4.911 | 0.317 | -10.208** | 0.385 |
| | (-3.32) | (2.22) | (-0.67) | (1.00) | (-2.70) | (1.27) |
| *Obs* | 55 | 55 | 55 | 55 | 55 | 55 |
| *Parms* | 11 | 11 | 11 | 11 | 11 | 11 |
| *R sq.* | 0.93 | 0.78 | 0.86 | 0.59 | 0.81 | 0.69 |
| *Wald (1)* | 783.35*** | 194.25*** | 389.67*** | 84.52*** | 286.47*** | 127.59*** |
| *Wald (2)* | | 593.87*** | | 312.55*** | | 260.15*** |
| *DWH.* | 1.33*** | 1.07*** | 0.09*** | 0.29*** | 3.29*** | 1.23*** |
| *Sargan* | | 0.002*** | | 1.988*** | | 0.330*** |
| *Basmann* | | 0.001*** | | 0.701*** | | 0.106*** |

****, ** and * indicate that the coefficient is significantly different from zero at the 1%, 5% and 10% levels, respectively.*
*Note: Robust t-statistics in parentheses*

## 7.3 Estimation Results and Discussion

### *Model Estimation*

In stage 1, we compute the residuals from a regression where FDI is a function of all our explanatory variables. In stage 2, we regress CORR* on the set of our explanatory variables but using FDI residuals as one of the explanatory variables along with FDI. We then test for the significance of the FDI residuals. The similar procedure is applied to test endogeneity of CORR*. This test determines whether FDI and CORR* treated as endogenous during estimation could in fact be treated as exogenous. The Ho: FDI and CORR* are exogenous and is rejected at 1% (see Table 7) which means that FDI and CORR* can be deemed as endogenous and hence the 3SLS is the appropriate method of estimation.

We then use Sargan-Basmann (SB) test for over-identifying restrictions to test whether the exogenous variables and the residuals in the system are not correlated. If this is the case, then our system can be estimated. This test reports two statistics (SB test indicates the p-value of the Sargan over-identification test as well as reports the Basmann's statistics). The joint Ho in both cases: the instruments are valid instruments, (i.e., uncorrelated with the error term, and that the excluded instruments are correctly excluded from the estimated equation).

Under the null, in both cases, the test statistic is distributed as chi-squared in the number of over-identifying restrictions. The explicit discussion of this test is given in Sargan (1958). In none of the cases can the null be rejected at 1% which means the instruments used in both FDI and corruption equations are valid and we can precede with our estimation. F-statistics for the DWH test along with chi sq-statistics for the SB test are both shown in the last row in Table 7.

To estimate the system of simultaneous equations, 3SLS, developed by Zellner and Theil (1962) is used. Afterwards, we apply the Wald test of the significance of the models' parameters (Table 7). As previously in both chapter 5 and chapter 6 (see also p.73 for a brief description of the test), we apply the Wald (1) to examine the joint significance of the explanatory variables and Wald (2) to examine the individual significance of these variables. The results confirm that all our explanatory variables are both individually and jointly not zero ($p>0.01$) and should be therefore retained in our models.

### *Results and Discussion*

Table 7 shows quite high R-sq. for both FDI and CORR* equations. In particular, on average 87% versus 69% of the variation in FDI and corruption levels is explained by the variables specified in FDI and corruption equations respectively. The latter is rather a good result which

means that most of independent variables which may be expected in the FDI decision process are taken into account in our modelling.

The coefficient estimates reported in Table 7 are semi-elasticities except for the explanatory variables that were in logs. These are the following: **GRPCAP**, **DECLABCAP** and **CORR10-CORR12**. Both dependent variables are taken in logs.

Starting with Eq. (7.1), the 3SLS estimation results reported in Table 7 (columns 1, 3 and 5) show factors that have significance in explaining FDI distribution within Russia to be market size ($p<0.05$), information cost ($p<0.05$), natural resources abundance ($p<0.05$), climate conditions ($p<0.05$), political status ($p<0.10$), policy framework ($p<0.10$), decentralisation ($p<0.05$), urbanisation ($p<0.05$), and population ($p<0.05$). All three types of corruption have been found to have a positive and significant ($p<0.05$) impact on the cumulative FDI stocks.

Regarding Eq. (7.2), the 3SLS estimation results reported in Table 7 (columns 2, 4 and 6) show factors that factors that have a significant impact on corruption to be market size ($p<0.05$), information cost ($p<0.05$), natural resources abundance ($p<0.05$), climate conditions ($p<0.05$), political status ($p<0.10$), public trust ($p<0.10$), decentralisation ($p<0.05$), urbanisation ($p<0.05$), and population ($p<0.05$). Interestingly, FDI stocks are found to have significant and positive ($p<0.05$) impact on (all three types) of corruption.

Most (but with some exceptions) of the explanatory variables are found to have expected signs and levels of significance. Exceptions are the following. In particular, although distance from Moscow city (DIST) was used to check the hypothesis that (i) information costs have a negative impact on FDI and that (ii) the farther regions are also the once that are more corrupt, our intuition is not confirmed however: DIST is found to increase the accumulation of FDI in a region, yet to have a negative impact on corruption.

The latter finding however can be explained by the following. Since Russia has a large land mass (see Chapter 3 for a discussion), foreign investors do not mind the distance and also if the MNEs that went to Russia between 2002 and 20004 were market-seeking (which could be confirmed by the finding of market size to be quite significant) they then would not be concerned with the distance. Finding of a negative impact of DIST on corruption, however, could in theory mean that farther regions are also the once that are less corrupt and that the closer a region is to the capital the more corrupt a place is.

Another interesting finding in Eq. (7.2) is the negative impact of the market size on corruption. What this means is that larger and wealthier regions are also those that are less corrupt. This finding is also confirmed by the negative sign of urbanisation which again shows that more industrialised regions are less corrupt. Moving on, natural resource abundance (proxied by DOIL)

has 'unexpected' sign in Eq. (7.1), yet expected one in Eq. (7.2): showing that FDI stock accumulation is reduced in regions abundant with gas and oil (which could be explained by the fact that these regions are resources scarce regions, see Appendix 3 for a discussion on data); in those regions it is also the natural resources that lead to rent seeking (a positive sign of DOIL in Eq. 7.2).

Interestingly, climate is found to reduce corruption which is a bad news for Russia, a country which is well-known for its harsh weather conditions. Republican status of Russian regions is found to decrease FDI and increase corruption. On the other hand, we confirm that SEZs increase FDI. Public trust is shown to decrease corruption which is an expected finding: firms trust regional authorities more in the regions with less level of corruption.

Decentralisation is found to decrease FDI simultaneously increasing corruption; whilst population as expected is shown to increase corruption and yet decrease FDI stocks at the same time (this perhaps happens as Russian regional markets get more saturated). Moreover, FDI stocks' accumulation in a region is found to increase corruption. More precisely, other things being equal, a 1% increase in administrative business corruption increases FDI stocks by 10.4%, a 1% increase state capture increases FDI stocks by 13.8%, whilst a 1% increase in business capture increases FDI stocks by 16.6%. What is also interesting here is that all three indices of corruption have a somewhat similar impact on FDI. Likewise, same applies to the impact of FDI stocks on corruption. In particular, a 1% increase in FDI stocks increase business corruption by 0.07%, increase state capture by 0.08%, and increase business capture by 0.02%.

The results are satisfactory and confirm our previous findings (in Chapter 5 and 6). The DWH test indicates a significant endogenous relationship between FDI and corruption over the period 2002-04. From Table 7 it is seen that FDI and corruption have significant impacts on each other in the simultaneous equations, confirming the endogenous relationship. It also appears that it is possible that more decentralised regions whose governments are perceived to be more corrupt are also the ones that tend to accumulate less FDI. The latter conclusion is made after controlling for other determinants of FDI distribution such as economic and policy factors. Finally, larger FDI stocks' accumulation is found to increase the level of perceived corruption.

To estimate the impact decentralisation has in the relationship between FDI and corruption we report the reduced forms multipliers. The results in Table 7 show that three 3SLS forms of equation (7.1) are the following.

For CORR10:

(7.1.1)

$$FDIST = -8.239 + 10.383(CORR10) + 0.949(GRPCAP) + 0.001(DIST) - 1.970(DOIL) + 0.271(TEMP) - 0.588(DREP) + 0.684(SEZ) - 3.092(DECLABCAP) + 0.131(URBAN) - 0.039(IND) - 0.002(POP)$$

(7.2.1)

$$CORR10 = 0.604 + 0.007(FDIST) - 0.078(GRPCAP) - 0.001(DIST) + 0.201(DOIL) - 0.024(TEMP) + 0.063(DREP) - 0.565(CORR6) + 0.301(DECLABCAP) - 0.009(URBAN) - 0.010(IND) + 0.0001(POP)$$

For CORR11:

(7.1.2)

$$FDIST = -4.911 + 13.783(CORR11) + 1.389(GRPCAP) + 0.001(DIST) - 1.605(DOIL) + 0.181(TEMP) - 2.328(DREP) + 0.889(SEZ) - 3.766(DECLABCAP) + 0.042(URBAN) - 0.683(IND) - 0.001(POP)$$

(7.2.2)

$$CORR11 = 0.317 + 0.079(FDIST) - 0.104(GRPCAP) - 0.001(DIST) + 0.114(DOIL) - 0.014(TEMP) + 0.168(DREP) - 0.118(CORR6) + 0.289(DECLABCAP) - 0.004(URBAN) - 0.047(IND) + 0.0001(POP)$$

For CORR12:

(7.1.3)

$$FDIST = -10.208 + 14.645(CORR12) + 1.520(GRPCAP) + 0.001(DIST) - 3.868(DOIL) + 0.198(TEMP) - 1.736(DREP) + 1.584(SEZ) - 5.694(DECLABCAP) + 0.130(URBAN) - 0.237(IND) - 0.002(POP)$$

(7.2.3)

$$CORR12 = 0.385 + 0.021(FDIST) - 0.082(GRPCAP) - 0.001(DIST) + 0.283(DOIL) - 0.010(TEMP) + 0.130(DREP) - 0.928(CORR6) + 0.266(DECLABCAP) - 0.003(URBAN) - 0.007(IND) + 0.0001(POP)$$

We then get three reduced 3SLS forms of the model, which are the following.

For CORR10:

(7.1.1*)

$$FDIST = 6.474 + 2.664(GRPCAP) + 0.033(DIST) - 6.865(DOIL) + 0.076(TEMP) - 2.151(DREP) + +19.296(CORR6) + \mathbf{10.280}(DECLABCAP) + 0.306(URBAN) + 0.342(IND) - 0.0003(POP)$$

(7.2.1*)

$$CORR10 = 0.155 - 0.207(GRPCAP) - 0.002(DIST) + 0.434(DOIL) - 0.059(TEMP) + 0.128(DREP) - 0.151(SEZ) + +\mathbf{0.858}(DECLABCAP) - 0.030(URBAN) + 0.006(IND) + 0.003(POP)$$

For CORR11:

(7.1.2*)

$$FDIST = 6.089 + 16.101(GRPCAP) + 0.157(DIST) - 18.267(DOIL) + 2.168(TEMP) - 25.719(DREP) + 18.236(CORR6) + \mathbf{44.753}(DECLABCAP) + 0.618(URBAN) + 2.629(IND) - 0.0001(POP)$$

(7.2.2*)

$$CORR11 = 0.461 - 1.236(GRPCAP) - 0.001(DIST) + 0.011(DOIL) - 0.157(TEMP) + 2.067(DREP) - 0.786(SEZ) - +\mathbf{3.213}(DECLABCAP) - 0.334(URBAN) + 1.123(IND) + 0.001(POP)$$

For CORR12:

(7.1.3*)

$$FDIST = 6.594 + 1.733(GRPCAP) + 0.022(DIST) - 5.984(DOIL) + 0.0211(TEMP) - 9.925(DREP) + 19.052(CORR6) + \mathbf{20.218}(DECLABCAP) + 0.236(URBAN) + 1.038(IND) - 0.001(POP)$$

(7.2.3*)

$$CORR12 = 0.248 - 0.443(GRPCAP) - 0.003(DIST) + 0.117(DOIL) - 0.006(TEMP) + 0.052(DREP) - 0.004(SEZ) + +\mathbf{0.181}(DECLABCAP) - 0.004(URBAN) + 0.003(IND) + 0.001(POP)$$

From the equations (7.1.1* -7.1.3* and 7.2.1*-7.2.3*) following impact of decentralisation on FDI and corruption can be concluded. Firstly, for the perceived corruption proxied by CORR10, decentralisation increase FDI by 10.3% and increase corruption by 0.8%. Secondly, for the perceived corruption proxied by CORR11, decentralisation increase FDI by 44.7% and increase corruption by 3.2%. Thirdly, for the perceived corruption proxied by CORR12, decentralisation increase FDI by 20.2% and increase corruption by 0.2%. Therefore, decentralisation seems to have much stronger impact on FDI in presence of state capture and so is the impact of decentralisation on the latter 'face' of corruption. Our results provide sufficient evidence to support the argument that between 2002 and 2004 regional decentralisation although increasing the FDI stocks within Russian regions, has enhanced corruption.

## 7.4 Conclusions

Motivated by previous empirical work on the determinants FDI and corruption, this chapter has explored the link between FDI and corruption by focusing – along with corruption – on one particular possible political determinant of FDI, i.e., decentralisation that has not been studied in this context before. We specified and estimated a simultaneous equation econometric model to show the effect of corruption on FDI and vice versa in general. We also reported reduced forms multipliers to indicate the impact of decentralisation on both FDI and corruption in particular. In our model FDI is an endogenous variable determined within the system whilst affecting other variables. A SEM makes a lot of sense because proposing bi-directional causality in our context is highly plausible.

As a result, such model has been used to test hypothesis concerning the determinants as well as effects of FDI at the same time. The test results suggest that endogeneity between FDI and corruption did exist for the period between 2002 and 2004. That is, during this period of time, FDI and corruption have become significantly complementary to each other and have formed an increasingly endogenous relationship. Furthermore, decentralisation has been found to promote corruption and to increase the FDI stocks accumulation.

Strong effects of economic and political institutions add another critical dimension to the existing literature which stresses the locational advantages of market potential and factor costs as key FDI determinants in Russia. In particular, our results show that on the one hand cumulative FDI stocks in a region may be higher in regions where the levels of perceived corruption are higher, with the latter being promoted by the increase in the regional decentralisation. On the other hand, regional corruption levels have been found to be higher in regions where the extent of decentralisation is higher which leads to an increase in the stocks of regional FDI. Likewise, decentralisation is found to enhance FDI stock accumulation.

The policy implications of this study are relatively straightforward. For the reason that FDI and corruption have become endogenously related particularly through decentralisation, centralisation should lead to a decrease in the corruption level. However, it is not necessarily that centralisation will result to an increase in the FDI inflows which should promote further economic growth and enhance competitiveness.

If confirmed by the further research these findings would (i) contradict the identified by Tiebout (1956) earlier the gains from decentralisation, and (ii) confirm the argued later by Kessing's et al. (2007) the negative relationship between FDI and decentralisation. Furthermore, these findings would identify a number of detriments that decentralisation brings with it, in particular an increase in public corruption, with bureaucrats in a decentralised economy more able to engage in rent-seeking behaviour.

# Chapter 8:

# Concluding Remarks

## 8.1. Introduction

This thesis has studied several aspects of the relationship between corruption and FDI with the aim of contributing to the empirical IB literature that examines the determinants of FDI stocks accumulation/location. The focus has been placed on perceived corruption as the key determinant of FDI and various methodologies have been used to address three key topics: (i) the link between FDI and corruption, (ii) the relationship among FDI, corruption and investment in public capital, and (iii) the relationship among FDI, corruption and decentralisation.

The purpose of this final chapter is threefold. Firstly, it will summarise the major research findings; secondly, it will outline the policy implications; and finally, it will identify the limitations of these study and specify areas for further research. This chapter, therefore, is organised in the following manner. Section 8.2 presents a summary of research findings. Section 8.3 discusses public policy implications. Finally, section 8.4 discusses the limitations of the study and opportunities for the further research.

## 8.2 Summary of Findings

Our first topic explores the relationship between FDI and corruption. The results presented in Chapter 5 show that the observed variation of cumulative FDI stocks across regions in Russia can be explained by both economic factors such as market size and domestic agglomeration as well as institutional/political economy factors such as corruption and public trust. However, this study also shows that, under the period of investigation, Russia's regions which are not necessarily abundant with natural resources and skilled labour appeared to attract international capital. More importantly, the results show that different dimensions of corruption can have somewhat different impacts on FDI stocks accumulation. However, on average, the impact of corruption on the accumulation of FDI stocks in the Russian regions is positive.

The second topic that is studied in this thesis is the relationship among FDI, corruption and investment in public capital such as transportation networks and telecommunications with our main assumption that corruption is one of the key factors in explaining the unobservable FDI stocks location within Russia. In particular we investigate the impact of corruption on FDI when governmental investments in different public infrastructures are controlled for. The econometrical

results show that the effect of corruption on the accumulation of FDI stocks when controlling for the latter and holding other factors in the regression model fixed is on average significant and positive. Although public capital expenditures are not found to have an impact on FDI in presence of corruption, natural resources do so positively.

When corruption however is treated as endogenous, the impact of all three dimensions of corruption become positively association with FDI so does the rail infrastructure. The finding of no association between FDI and main public capital variables as well as the fact that relation between FDI and corruption is positive can be explained by the following. Although local governments may spend more on public goods to make the area more attractive to foreign investors, at the same time they may be also more interested in extracting rents from foreign investors. The results support the idea that the regulation of FDI in particular (and other forms of market intervention) is associated with and facilitated by a larger public sector, which distorts competition and introduces opportunities for rent-seeking by particular economic and political factors.

Finally, a simultaneous equation system to examine bidirectional relationship between FDI and corruption was modelled and estimated in the third study. In particular, we focused on the importance of decentralisation in the relationship between FDI and corruption. Results show that although decentralisation has a significant positive impact on the accumulation of the FDI stocks, decentralisation increases corruption. The latter means that the more decentralised (in terms of the number of governmental officials) regions are also those that are more corrupt and those that receive more of inward FDI flows and hence accumulate more of FDI stocks.

In general, our key research finding (a possible positive relationship between corruption and FDI) can be explained as follows. To save their time and to get where they want to get in terms of a place/region within a country, foreign direct investors are willing to pay bribes to the regional authorities so to move in front of the bureaucratic lines. In that way, corruption might actually be of a benefit for the regional growth as it can help foreign investors to circumvent cumbersome regulations (red tape) in the bureaucratic process. This finding supports the idea that bribes may act as "speed money" (Acemoglu and Verdier, 2000).

Nevertheless, while it is possible for some foreign investors to bribe politicians to avoid costly government regulation for example, to obtain a number of preferential treatments, to gain permission to execute a public capital project, rent-seeking behaviour by bureaucrats impose costs on foreign investors, undermining their ability to account for such costs, and hence deterring FDI. Moreover, although foreign investors generally prefer countries whose 'rule of law' is in place, its institutional system is developed, fair, open and transparent which results in

good governance and hence low perceived levels of corruption – our study shows that what attracts FDI mostly remains the existence of actual business opportunities.

In the Russian case it seems that, even if it had lower levels of corruption, it would not have attracted FDI in the absence of genuine economic opportunities. Nevertheless, the opposite of this statement also seem to be true: although such economic opportunities do exist and are made available, the simple fact that the country's governance system is imperfect does not deter FDI.

## 8.3 Policy Implications

Results presented in this research suggest that administrative controls and bureaucratic discretion are used to allow government officials to share in the profits from FDI. Of course, for international investors, having to pay bribes and deal with official extortion is equivalent to facing an extra tax. Although many MNEs may have obtained market share because of the bribes they paid, for every dollar of business that these firms obtain, Russia loses multiple dollars of potential foreign investment. Unlike a tax, however, corruption generates no tax revenue for the government.

If anything, the very same corruption typically erodes the domestic tax base, since many transition countries are eager to attract FDI by offering generous tax benefits to foreign firms. Moreover, corruption is a major impediment to the progress of the transition and developing countries in particular. Hence, the latter needs to be taken into account when deciding on the further regional development policies within Russia as corruption significantly reduces economic growth (see for instance Mauro, 1995.) In that context, how can corruption be reduced and FDI inflows increased at the same time?

Firstly, there should be a free market, a vibrant political opposition and a truly independent judiciary. Secondly, punishments should be made more severe so that the expected cost of engaging in corruption is increased as a result and thereby reducing the amount of corruption. Efforts can also be made to increase the effectiveness of corruption investigations. As different activities have different perceived risks, corrupt bureaucrats will redirect investments and transactions from activities with a high-perceived risk to activities with a low-perceived risk (see for example Shleifer and Vishny, 1993).

Therefore, one can address corruption either by lowering the expected relative increase in income, for example by raising the salaries of the government employees, or by increasing the expected costs through more thorough investigations and/or more severe punishments. Finally, since the amount of corruption in a society is also dependent on the amount of possibilities for

corrupt practices, the number of opportunities for corruption could be affected by making the decision-making process in the country more transparent and thus limiting the bureaucrats' opportunities to evade the law. The latter as a result would decrease the incentives for engaging in corruption.

## 8.4 Limitations and Directions for Further Research

There are a number of limitations that deserve some attention. Due to the limitation of data on corruption, it was not possible to examine the impact of corruption on FDI before 2002. To the best of our knowledge, data on corruption in Russia before 2002 are not available if at all existent. Additionally, the data available from Goskomstat RF does not allow for the possibility of carrying out a sectoral analysis of regional FDI flows. Yet, sectoral differences along with geographical could be quite important in explaining regional patterns of FDI.

There are a number of other potential extensions to the topics studied here. Firstly, much research is needed in examining the dynamic effects of institutional reforms on FDI and corruption. To date, this type of research has been hindered due to a relative lack of time-varying indicators. If some new corruption and governance data becomes available for a relatively long period, these could be used in conjunction with indicators of institutional change.

Secondly, it would be desirable to endogenise the decentralisation decision. In the model presented in this thesis, while corruption and FDI are endogenously determined, decentralisation is exogenous. The decision to decentralise as well as the decentralisation process itself is much more complex however and is likely to be affected by corruption and economic development through FDI. No obvious measure exists to rank countries and/or regions within countries of their degree of decentralisation. In this research we have only focused on a single measure of decentralisation, further extension of this work therefore would be to use different measures of decentralisation one of which would be fiscal decentralisation.

Finally, it would be desirable to evaluate the effects of corruption on MNEs' and domestic firms' productivity and locational decisions of firms using firm-level data. The increasing availability of micro-data can offer the opportunity to undertake research in this exciting area considering the micro-economic impact of corruption on the behaviour of foreign investors and MNEs. To the best of our knowledge, there are no studies that have used firm-level data to examine the above relationship for either Russia or Russian regions. Therefore, additional research is clearly desirable.

## List of References


Abed, G.T. and Davoodi, H.R. (2000) "Corruption, Structural Reforms and Economic Performance in Transition Economies", in *Governance, Corruption and Economic Performance*, Abed, G.T. and Gupta S. (eds.), International Monetary Fund, pp. 489-537

Acemoglu, D.A. and Verdier, T. (2000) "The Choice between Market Failure and Corruption", *The American Economic Review*, 90(1), pp. 194-211

Ades, A. and Di Tella, R. (1999) "National Champions and Corruption: Some Unpleasant Interventionist Arithmetic", *Economic Journal*, 107(443), pp. 1023-1042

Ades, A. and Wacziarg, R. (1997) "Openness, Country Size, and Government", *Journal of Public Economics*, 69(3), pp. 305-321

Ahrend, R. (2002) "Speed of Reform, Initial Conditions, Political Orientation, or What? Explaining Russian Regions' Economic Performance", DELTA Working Paper, No. 2002-10

Aidt, T.S. (2003) "Economic Analysis of Corruption: A Survey", *Economic Journal*, 113, pp. 632-652

Ali, A.M. and Isse, H.S (2003) "Determinants of Economic Corruption: A Cross-Country Comparison", *Cato Journal*, 22(3), pp. 449-466

Alesina, A. and Weder, B. (2002) "Do Corrupt Governments Receive Less Foreign Aid?," *American Economic Review*, 92(4), pp. 1126-1137

Amemiya, T. (1973) "Regression Analysis with the Dependent variable is Truncated Normal", *Econometrica*, 41(6), pp. 997-1016

Andvig, J.C. (2005) "A House of Straw, Sticks or Bricks? Some Notes on Corruption Empirics", *Norwegian Institute of International Affairs*, pp. 678

Arauzo-Carod, J.M., Liviano-Solis, D. and Manjón-Antolín, M. (2009) "Empirical Studies in Industrial Location: An Assessment of their Methods and Results", *Journal of Regional Studies*, 49(4), pp. 1-32

Arikan, G.G. (2004) "Fiscal Decentralization: A Remedy for Corruption?", *International Tax and Public Finance*, 11, pp. 175-195

Asiedu, E. (2002) "On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?", *World Development*, 30(1), pp. 107-119

Baltagi, B.H. (2001) *Econometric Analysis of Panel Data*, Wiley, Chichester

Bandelj, N. (2002) "Embedded Economies: Social Relations as Determinants of Foreign Direct Investment in Central and Eastern Europe", *Social Forces*, 81(2), pp. 411-444

Banfield, E.C. (1979) "Corruption as a Feature of Governmental Organization", in *Bureaucratic Corruption in Sub-Saharan Africa: Towards a Search for Causes and Consequences*, M. Ekpo (eds.), University Press of America, Washington DC

Bardhan, P. (2002) "Corruption and Development: A Review of Issues", in *Political Corruption: Concepts and Contexts*, in A.J. Heidenheimer and M. Johnston (eds.), *Transaction Books*, pp. 321-336

Barell, R. and Pain, N. (1999) "Trade Restrains and Japanese Foreign Investment Flows", *European Economic Review*, 43, pp. 29-45

Basile, R. (2004) "Acquisitions versus Greenfield Investment: The Location of Foreign Manufacturers in Italy", *Regional Science and Urban Economics,* 34, pp. 3-25

Bevan, A.A. and Estrin, S. (2004) "The Determinants of Foreign Direct Investment into European Transition Economies", *Journal of Comparative Economics*, 32, pp. 775-787

Bikalova, N. (2001) "Intergovernmental Fiscal Relations in Russia", *Finance and Development*, pp. 36-39

Billington, N. (1999) "The Location of Foreign Direct Investment: An Empirical Analysis", *Applied Economics*, 31, pp. 65-76

Blanchard, O. and Shleifer, A. (2001) "Federalism with and without Political Centralization: China versus Russia", *IMF StaffPapers*, 48, pp. 171-179

Boeri T., Burda, m. and Kollo, J. (1996) "Mediating the Transition Labor Markets in Central and Eastern Europe", *Economic Policy Initiative*, pp. 4

Boundier-Bensebaa, F. (2005) "Agglomeration Economies and Location Choice: Foreign Direct Investment in Hungary", *Economics of Transition,* 13(4), pp. 605-628

Brainard, S.L. (1997) "An Empirical Assessment of the Proximity-Concentration Trade-off between Multinational Sales and Trade", *American Economic Review*, 87(4), pp. 520-544

Braunerhjelm, P. and Svensson, R. (1996) "Host Country Characteristics and Agglomeration in Foreign Direct Investment", *Applied Economics*, 28(7), pp. 833-840

Brennan, G. and Buchanan, J. (1980) *The Power to Tax: Analytical Foundations of a Fiscal Constitution*, Cambridge: Cambridge University Press

Broadman, H.G. and Sun, X. (1997) "The Distribution of Foreign Direct Investment in China", *World Economy,* 20(3), pp. 339-361

Broadman, H.G. and Recanatini, F. (2002) "Where Has All Foreign Direct Investment Gone in Russia", the World Bank Policy Research Working Paper Series, the World Bank

Brunetti, A. and Weder, B. (2003) "A Free Press is Bad News for Corruption", *Journal of Public Economics*, 87, pp. 1801-1824

Buckwalter, D.W. (1995) "Spatial Inequality, Foreign Investment, and Economic Transition in Bulgaria", *The Professional Geographer*, 47(3), pp. 288-298

Buckley, P.J. and Casson, M.C. (1999) "A Theory of International Operation", in P.J. Buckley and P.N. Gauri (eds.), *The Internalisation of the Firm: A Reader,* London: ITBP, pp. 55-60

Busse, M. and Hefeker, C. (2007) "Political Risk, Institutions and Foreign Direct Investment", *European Journal of Political Economy*, 23(2), pp. 397-415

Campos, J.E., Lien, D. and Pradhan, S. (1999) "The Impact of Corruption on Investment: Predictability Matters", *World Development,* 27(6), pp. 1059-1067

Canfei, H.E. (2006) Regional Decentralisation and Location of Foreign Direct Investment in China, *Post-Communist Economies*, 18(1), pp. 33-50

Carbonera, E. (2000) "Corruption and Decentralisation", Working Paper 342/83, Dipartiment di Scienze Economiche, Università di Bologna

Carstensen, K. and Toubal, F. (2004) "Foreign Direct Investment in Central and Eastern European Countries: A Dynamic Panel Analysis", *Journal of Comparative Economics*, 32, pp. 3-22

Caves, R.E. (1989) "Exchange Rate Movements and Foreign Direct Investment in the United States", in D.B. Audretsch and M.P. Klaudon (eds.), *The Internalisation of the US Markets*, New York: New York University Press, pp. 199-228

CEFIR (2006) "Analytical Report on Growth and Investment in Russia's Regions "Unleashing the Potential", Centre for Economic and Financial Research at New Economic School, CEFIR Policy Paper Series N. 24

Coase, R.H. (1937) "The Nature of the Firm", *Economica*, 4(16), pp. 386-405

Coase, R.H. (1960) "The Problem of Social Cost", *The Journal of Law and Economics*, 3, pp. 414-440

Chakrabarti, A. (2001) "The Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-Country Regressions", *Kyklos,* 54, pp. 89-114

Chen, C. (1996) "Regional Determinants of Foreign Direct Investment in Mainland China", *Journal of Economic Studies*, 23, pp. 18-30

Cheng, L.K and Kwan, Y.K. (2000) "What are the Determinants of the Location of Foreign Direct Investment? The Chinese Experience", *Journal of International Economics*, 51(2), pp. 379-400

Coughlin, C., Terza, J.V. and Arromdee, V. (1991) "State Characteristics and the Location of Foreign Direct Investment within the United States", *Review of Economics and Statistics*, 73, pp. 675-683

Coughlin, C.C. and Segev, E. (2000) "Foreign Direct Investment in China: A Spatial Econometric Study", *World Economy*, 23(1), pp. 1-23

Dal Bó, E. and Rossi, M. (2007) "Corruption and Inefficiency: Theory and Evidence from Electric Utilities," *Journal of Public Economics*, 91(5-6), pp. 939-962

Davidson, R. and MacKinnon, J.G. (1993) *Estimation and Inference in Econometrics*, Oxford University Press

Deichmann, J.I. (2001) "Distribution of Foreign Direct Investment among Transition Economies in Central and Eastern Europe", *Post-Soviet Geography and Economics*, 42, pp. 142-52

Deichman, J.I, Eshghi, A., Haughton, D.M., Sayek, S., and Teebagy, N.C. (2003) "Foreign Direct Investment in the Eurasian Transition States", *Eastern European Economics*, 41(1), pp. 5-34

Del Monte, A. and Papagni, E. (2007) "The Determinants of Corruption in Italy: Regional Panel Data Analysis," *European Journal of Political Economy*, 23(2), pp. 379-396

Devereux, M.P. and Griffith, R. (1998) "Taxes and the Location of Production: Evidence from a Panel of US Multinationals", *Journal of Public Economics*, 68(3), pp. 335-367

Dininio, P. and Orttung, R. (2005) "Explaining Patterns of Corruption in the Russian Regions", *World Politics*, 57, pp. 500-529

Disdier, A.-C. and Mayer, T. (2004) "How Different is Eastern Europe? Structure and Determinants of Location Choices by French Firms in Eastern and Western Europe", *Journal of Comparative Economics*, 32(2), pp. 280-296

Doyle, C. and van Wijnbergen, S. (1994) "Taxation of Foreign Multinationals: A Sequential Bargaining Approach to Tax Holidays", *International Tax and Public Finance*, 1, pp. 211-225

Driffield, N. and Munday, K. (2000) "FDI and the Labour Market: a Review of the Evidence and Policy Implications", *Oxford Review of Economic Policy*, 16, pp. 90-103

Dunning, J.H. (1980) "Toward an Eclectic Theory of International Production: Some Empirical Tests", *Journal of International Business Studies*, 11, pp. 9-31

Dunning, J.H. (1993) *Multinational Enterprises and the Global Economy,* Addison Wesley, Wokingham, Berkshire

Dunning, J.H. (1998) "Location and the Multinational Enterprise: A Neglected Factor?", *Journal of International Business Studies*, 40, pp. 5-19

Dupasquier, C. and Osakwe, P.N. (2006) "Foreign Direct Investment in Africa: Performance, Challenges, and Responsibilities", *Journal of Asian Economics,* 17(2), pp. 241-260

Egger, P. and Winner, H. (2005) "Evidence on Corruption as an Incentive for Foreign Direct Investment", *European Journal of Political Economy*, 21(4) pp. 932-952

Egger, P. and Winner, H. (2006) "How Corruption Influences Foreign Direct Investment: A Panel Data Study", *Economic Development and Cultural Change*, 54, pp. 459-486

Erbenová, M. and Vagstad, S. (1999) "Investors Facing Opportunistic Governments: Is it Really Good to "Know the Market" before Investing?", *Scandinavian Journal of Economics*, 101, pp. 459-475

Erdal, F. and Tatoglu, E. (2002) "Locational Determinants of Foreign Direct Investment in an Emerging Economy: Evidence from Turkey", *Multinational Business Review,* 10(1), pp. 21-27

Estache, A. and Ross, M. (2002) "How Different is the Efficiency of Public and Private Water Companies", *World Bank Economic Review*, 16(1), pp. 139-148

Expert Institute (2000) "Mono-Towns and Town-Shaping Enterprises", Expert Institute, Moscow

Faggio, G., and Konings, J. (2003) "Gross Job Flows and Firm Growth in the Transition Countries: Evidence Using Firm Level Data on Five Countries", *Economic Systems*, 27(2), pp. 129-154

FIAC (2006) *Russia: Investment Destinations 2006*, Foreign Investment Advisory Council

Filer, R.K., Gylfason, T., Jurajda, Š. and Mitchell, J. (2001) "Markets and Growth in the Post-communist World", mimeo, the World Bank Global Research Project, Global Development Network, Washington DC

Fisman, R. and Gatti, R. (2002) "Decentralisation and Corruption: Evidence across Countries", *Journal of Public Economics,* 83(3), pp. 325-345

Freinkman, L., Titov, S, and Treisman, D. (1999) *Sub-National Budgeting in Russia: Pre-Empting a Potential Crisis*, the World Bank: Washington DC

Freinkman, L. and Plehanov, A. (2005) "What Determines the Extent of Fiscal Decentralisation? The Russian Paradox", the World Bank Policy Research Working Paper 3710, The World Bank, Washington DC

Freeland, C., Thornhill, J. and Gowers, A. (1997) "Moscow's Group of Seven", *Financial Times,* 11(1), pp. 2

Friebel, G., and Guriev, S. (2005) "Attaching Workers through In-Kind Payments: Theory and Evidence from Russia", *World Bank Econ Review",* 19, pp. 175-202

Fung, K.C., Garcia-Herrero, A., Iizaka, H. and Siu, A. (2005) "Hard or Soft? Institutional Reforms and Infrastructure Spending as Determinants of Foreign Direct Investment in China", *Japanese Economic Review,* 56(4), pp. 408-416

Gang, I.N., and Stuart, R.C. (1999) "Mobility Where Mobility is Illegal: Internal Migration and City Growth in the Soviet Union", *Journal of Population Economics*, 12, pp. 117-134

Gastanaga, V., Nugent, J.B., and Pashamova, B. (1998) "Host Country Reforms and FDI Inflows: How Much Difference Do they Make?", *World Development,* 26(7), pp. 1299-1314

Getz, K.A. and Volkema, R.J. (2002) "Culture, Perceived Corruption, and Economics: A Model of Predictors and Outcomes", *Business and Society,* 40(1), pp. 7-30

Glickman, N.J. and Woodward, D.P. (1998) "The Location of Foreign Direct Investment in the United States: Patterns and Determinants", *International Regional Science Review*, 11, pp. 137-154

Globerman, S. and Shapiro, D. (2002) "Global Foreign Direct Investment Flows: The Role of Governance Infrastructure", *World Development*, 30 (11), pp. 1898-1919

Globerman, S. and D. Shapiro, D. (2003) "Governance Infrastructure and US Foreign Direct Investment", *Journal of International Business Studies*, 34, pp. 19-39

Goldsmith, A.A. (1999) "Slapping the Grasping Hand Correlates of Political Corruption in Emerging Markets", *American Journal of Economics and Sociology*, 53(4), pp, 865-883

Grosse, R. and Trevino, L.J. (2005) "New Institutional Economics and FDI Location in Central and Eastern Europe", *Management International Review*, 45(2), pp. 123-145

Guimarães, P., Figueiredo, O. and Woodward, D. (2000) "Agglomeration and the Location of Foreign Direct Investment in Portugal", *Journal of Urban Economics,* 47, pp. 115-135

Gurgur, T. and Shah, A. (2000) "Localisation and Corruption: Panacea or a Pandora's Box", Presented at the IMF Conference on Fiscal Decentralisation, Washington DC

Guijarati, D.N. (2003) *Basic Econometrics,* 4th International Edition, McGraw Hill

Habib, M. and Zurawicki, L. (2002) "Corruption and Foreign Direct Investment", *Journal of International Business Studies*, 33(2), pp. 291-307

Hale, H.E. (2003) "Explaining Machine Politics in Russia's Regions: Economy, Ethnicity, and Legacy", *Pot-Soviet Affairs*, 19(3), pp. 228-263

Hansen, L. P. (1982) "Large Sample Properties of Generalized Method of Moments Estimators", *Econometrica*, 50, pp. 1029-1054

Hausman, J.A. and Taylor, W.E. (1981) "Panel data and unobservable individual effects", *Econometrica* 49, pp. 1377-1398

Head, K., Ries, J. and Swenson, D. (1995) "Agglomeration Benefits and Location Choice: Evidence from Japanese Manufacturing Investment in the United States", *Journal of International Economics*, 38, pp. 223-247

Head, K. and Ries, J. (1996) "Inter-City Competition for Foreign Investment: Static and Dynamic Effects of China's Incentive Areas", *Journal of Urban Economics*, 40, pp. 38-60

Heckman, J. (1979) "Sample Selection Bias as a Specification Error", *Econometrica*, 47 (1), pp. 153-161

Hellman, J.S., Jones, G., Kaufmann, D., and Schankerman, M. (2000) "Measuring Governance and State Capture: The Role of Bureaucrats and Firms in Shaping the Business Environment", Working Paper 2312, the World Bank, Washington DC

Hellman, J.S., Jones, G., and Kaufmann, D. (2002) "Far from Home: Do Transnationals Import Better Governance in the Transition Economies?", Working Paper, the World Bank, Washington DC

Hellman, J.S., Jones, G., and Kaufmann, D. (2003) "Seize the State, Seize the Day: State Capture and Influence in Transition Economies", *Journal of Comparative Economics*, 31(4), pp. 751-77

Henisz, W.J. (2000), "The Institutional Environment for Multinational Investment," *Journal of Law, Economics and Organization*, 16(2), pp.334-364

Hennart, J.-F. (2000) "Transaction Costs Theory and the Multinational Enterprise", in C.N. Pitelis and R. Sugden (eds.), *The Nature of Transnational Firm*, London: Routledge, pp. 72-118

Henitsz, W.J. (2002) "The Institutional Environment for Infrastructure Investment", *Industrial and Corporate Change*, 11(2), pp. 355

Hines, J. (1996) "Altered States: Taxes and the Location of Foreign Direct Investment in America", *American Economic Review*, 86, pp. 1076–1094

Hirvensalo, I. and Lausala, T. (2001) "Foreign Direct Investments in the Russian Territories of the Barents Region", Helsinki School of Economics and Business Administration Working Papers W-285

Hon, T.-Y., Poon, C.-C. and Woo, K.-Y. (2005) "Regional Distribution of Foreign Direct Investment in China: A Multivariate Data Analysis of Major Socioeconomic Variables", *The Chinese Economy*, 38(2), pp. 56-87

Huntington, S.P. (1968) *Political Order in Changing Societies*, New Haven: CT Yale University Press.

Huskey, E. (1999) *Presidential Power in Russia: The New Russian Political System,* M. E. Sharpe

Hymer, S.H. (1976) *The International Operation of National Firms: A Study of Direct Investment,* Ph.D. Dissertation, MIT

IMF (2003) *International Monetary Fund: Foreign Direct Investment in Emerging Market Countries*, Report of the Working Group of the Capital Markets Consultative Group, International Monetary Fund

Iwasaki, I. and Suganuma, K. (2005) "Regional Distribution of Foreign Direct Investment in Russia", *Post-Communist Economies*, 17(2), pp. 153-172

Jain, A.K. (2001) "Corruption: A Review", *Journal of Economic Surveys*, 15(1), pp. 71-121.

Jackobs, W.P. (1969) *The Economy of Cities*, New York: Vintage

Jalilian, H., Kirkpatrick, C. and Parker, D. (2007) "The Impact of Regulation on Economic Growth in Developing Countries: A Cross-Country Analysis", *World Development,* 35(1), pp. 87-103

Janeba, E. (2000) "Tax Competition when Governments Lack Commitment: Excess Capacity as a Countervailing Threat", *American Economic Review*, 90, pp. 1508-1519

Janicki, H.P. and Wunnava, P.V. (2004) "Determinants of Foreign Direct Investment: Empirical Evidence from EU Accession Candidates", *Applied Econometrics,* 36, pp. 505–509

Jensen, N. (2002) "Economic Reform, State Capture, and International Investment in Transition Economies", *Journal of International Development*, 14(7). pp. 973-977

Jin, H., Qian, Y. and Weingast, B. (2005) "Regional Decentralisation and Fiscal Incentives: Federalism Chinese Style", *Journal of Public Economics*, 89(9-10), pp. 1719-1742

Jones, A., Fallon, G. and Golov, R. (2000) "Obstacles to Foreign Direct Investment in Russia", *European Business Review,* 12(4), pp. 187-197

Kaufmann, D., Kraay, A. and Zoido-Lobatón, P. (2001) "Governance matters", the World Bank Discussion Paper Series No. 2196, the World Bank, Washington DC

Kaufmann, D., Frannie, L. and Mastruzzi, M. (2004), "Governance and the City: An Empirical Exploration into Global Determinants of Urban Performance," the World Bank Institute Working Paper and Articles (Discussion Paper), the World Bank, Washington DC

Kehoe, P.J. (1989) "Policy Cooperation among Benevolent Governments may be Undesirable", *Review of Economic Studies*, 56, pp. 289-296

Kessing, S.G., Konrad, K.A., and Kotsogiannis, C. (2007) "Foreign Direct Investment and the Dark Side of Decentralisation", *Economic Policy*, 22(49), pp. 5-70

Kinoshita, Y. and Campos, N.F. (2003) "Why Does FDI Go Where it Goes? New Evidence from the Transition Economies", IMF Working Paper 03/228

Knack, S. and Azfar, O. (2003) "Trade Intensity, Country Size and Corruption", *Economics of Governance*, 4(1), pp. 1-18

Knickerboker, F.T. (1973) *Oligopolistic Reaction and the Multinational Enterprise*, Harvard University Press, Cambridge, MA

Konrad, K. A. and Lommerud, K. E. (2001) "Foreign Direct Investment, Intra-Firm Trade and Ownership Structure", *European Economic Review*, 45, pp. 475-494

Krugman, P.R. (1991) *Geography and Trade*, MIT Press, Cambridge MA

Krugman, P.R. (1993) "On the Relationship between Trade Theory and Location Theory", *Review of International Economics*, 12, pp. 110-122

Lavrov, A., Litwack, J.M. and Sutherland, D. (2001) "Fiscal Federalist Relations in Russia: A Case for Sub-National Autonomy", OECD Centre for Co-operation with Non-members Working Paper

Leff, N.H. (1964) "Economic Development through Bureaucratic Corruption", *American Behavioural Scientist*, 8(3), pp. 8-14

Lederman, D. Loayza, N.V. and Soares, R.R. (2005) "Accountability and Corruption: Political Institutions Matter", *Economics and Politics*, 17(1), pp. 1-35

Ledyaeva, S. and Linden, M. (2006) "Testing for FDI Gravity Model in Russian Regions", Working Paper No 32/06, Department of Business and Economics, University of Joensuu

Ledyaeva, S. (2009) "Spatial Econometric Analysis of Foreign Direct Investment Determinants in Russian Regions", *World Economy,* 32(4), pp. 643-666

Li, Q. and Resnick, A. (2003) "Reversal of Fortunes: Democratic Institutions and Foreign Direct Investment Inflows to Developing Countries", *International Organisation*, 57, pp. 175-211

List, J.A. (2001) "US County-Level Determinants of Inbound FDI: Evidence from a Two-Step Modified Count Data Model", *International Journal of Industrial Organization* 19(6), pp. 953-973

Liu, X., Parker, D., Vaidya, K. and Wei, Y. (2001) "The Impact of Foreign Direct Investment on Labour Productivity in the Chinese Electronics Industry", *International Business Review*, 10, pp. 421-439

Makabenta, M.P. (2002) "FDI Location and Special Economic Zones in the Philippines", *Review of Urban and Regional Development Studies*, 14(1), pp. 59-77

Manaenkov, V. (2000) "The Determinants of Foreign Direct Investment in Russia", mimeo, New Economic School, Moscow

Manor, J. (1999) *The Political Economy of Democratic Decentralisation,* the World Bank, Washington DC

Markusen, J.R. (1995) "The Boundaries of Multinational Enterprises and the Theory of International Trade", *Journal of Economic Perspectives*, 92, pp. 169–189

Mauro, P. (1995) "Corruption and Growth", *Quarterly Journal of Economics*, CX, 3, pp. 681-712

Mauro, P. (1998) "Corruption and the Composition of Government Expenditure", *Journal of Public Economics,* LXIX, pp. 263-79

McDonald, J.F. and Moffitt, R.A. (1980) "The Uses of Tobit Analysis", *The Review of Economics and Statistics*, 16(2), pp. 318-321

McCarthy, D.J. and Puffer, S.M. (1997) "Strategic Investment Flexibility for MNE Success in Russia", *Journal of World Business*, 32(4), pp. 293–319

Meyer, K.E. (2001) "Institutions, Transaction Costs, and Entry Mode Choice in Eastern Europe", Journal of International Business Studies, 32(2), pp. 357-367

Mina, W. (2007) "The Location Determinants of FDI in the GCC Countries", *Journal of Multinational Financial Management,* 17(4), pp 336-348

Mody, A. and Srinivasan, K. (1998) "Japanese and U.S. Firms as Foreign Investors: Do They March to the Same Tune?", *The Canadian Journal of Economics*, 31(4), pp. 778-799

Mocan, N. (2004) "What Determines Corruption? International Evidence from Micro-data", NBER Working Paper No. 10460, National Bureau of Economic Research, Cambridge, MA

Morrisset, P. (2000) "Foreign Direct Investment to Africa: Policies also Matter", *Transnational Corporation*, 9, pp. 107-125

Mudambi, R. and Navarra, P. (2003) "Political Tradition, Political Risk and Foreign Direct Investment in Italy", *Management International Review*, 43(3), pp. 247-265

Nasser, O.M.A. (2007) "The Determinants of the US Foreign Direct Investment: Does the Region Matter?", *Global Economic Review*, 36(1), pp. 37-51

North, D.C. (1990) *Institutions, Institutional Change and Economic Performance*, Political Economy of Institutions and Decisions, Cambridge University Press

North, D.C. (1991) "Institutions", *Journal of Economic Perspectives*, 5(1), pp. 97-112

OECD (1996) *OECD Benchmark Definition of Foreign Direct Investment*, 3rd Edition, Paris, Organisation for Economic Cooperation and Development

Olson, M. (1965) "The Logic of Collective Action", in C. J. Calhoun, J. Gerteis, J. Moody, S. Pfaff and I. Virk (eds.) *Contemporary Sociological Theory*, Blackwell Publishing, pp. 126-130

Onyeiwu, C. and Shrestha, P.N. (2004) "Foreign Direct Investment in Africa: Performance, Challenges, and Responsibilities", *Journal of Asian Economics*, 17(2), pp. 241-260

Paldam, M. (2003) "The Cross-Country Pattern of Corruption: Economics, Culture and the Seesaw Dynamics", *European Journal of Political Economy*, 18, pp. 215-240

Persson, R., Tabellini G. and Trebbi F. (2003) "Electoral Rules and Corruption", *Journal of the European Economic Association*, 1(4), pp. 958-989

Popov, V. (2001) "Reform Strategies and Economic Performance of Russia's Regions", *World Development*, 29(5), pp. 865-886

Porter, M.E. (1994) "The Role of Location in Competition", *Journal of Economics of Business*, 11, pp. 35-39

Porter, M.E. (1996) "Competitive Advantage, Agglomerative Economies and Regional Policy", *International Regional Science Review*, 19, pp. 85-94

Prud'homme, R. (1995) "The Dangers of Decentralisation", *The World Bank Research Observer*, 10(2), pp. 201-220

Qian, Y. and Weingast, B.R. (1997) "Federalism as a Commitment to Preserving Market Incentives", *Journal of Economic Perspectives*, 11(4), pp. 83-92

Quazi R. (2005) "Economic Freedom and Foreign Direct Investment in East Asia", College of Business Prairie View A&M University Prairie View, Texas 77446, USA International Academy of Business and Public Administration Disciplines (IABPAD) Meetings

Reynolds, T., Kenny, C, Liu, L. and Qiang, C. Z.-W. (2004) "Networking for Foreign Direct Investment: The Telecommunications Industry and its Effects on Investment", *Information Economics and Policy*, 16(2), pp. 159-164

Rose-Ackerman, S. (1975) "The Economics of Corruption", *Journal of Public Economics*, 4, pp. 87-203

Rose-Ackerman, S. (1978) *Corruption: A Study in Political Economy*, New York: Academic Press

Rose-Ackerman, S. (1999) *Corruption and Government: Causes, Consequences, and Reform*, Cambridge University Press, Cambridge, UK

Resmini, L. (2000) "The Determinants of Foreign Direct Investment in the CEECs: New Evidence from Sectoral Patterns", *Economics of Transition*, 8(3), pp. 665-689

Rodrik, D. (2000) "Institutions for High-Quality Growth: What They Are and How to Acquire Them", *Studies in Comparative International Development*, 35(3), pp. 3-31

Roncek, D.W. (1992) "Learning More from Tobit Coefficients: Extending a Comparative Analysis of Political Protest", American *Sociological Review*, 57, pp. 503-507

Rugman, A.M. (1979) *International Diversification and the Multinational Enterprise*, Lexington Books: Lexington, MA

Sargan, J.D. (1958) "The Estimation of Economic Relationships Using Instrumental Variables", *Econometrica*, 26, pp. 393-415

Service, R. (1997) *A History of Twentieth Century Russia*, Penguin, London

Schnitzer, M. (1999) "Expropriation and Control Rights: A Dynamic Model of Foreign Direct Investment", *International Journal of Industrial Organization*, 17, pp. 1113-1137

Shelley, L. (1982) "Soviet Population Migration and Its Impact on Crime", *Canadian Slavonic Papers*, XIII (1), pp. 77-87

Shlapentok, V. (1996) "Early Feudalism the Best Parallel for Contemporary Russia", *Euro-Asia Studies*, 48(3), pp. 393-411

Shleifer, A. and Vishny, R.W. (1993) "Corruption", *The Quarterly Journal of Economics*, pp. 599–617

Slinko, I., Yakovlev, E. and Zhuravskaya, E. (2005) "Laws for Sale: Evidence from Russia", *American Law and Economics Review*, 7(1), pp. 284-318

Smarzynska, B.K. and Wei, S.J. (2000) "Corruption and Composition of Foreign Direct Investment: Firm-Level Evidence," the World Bank Policy Research Working Paper Series, the World Bank

Sun, Q., Tong, W. and Yu, Q. (2002) "Determinants of Foreign Direct Investment across China", *Journal of International Money and Finance*, 21(1), pp. 79-113

Svensson, J. (2005) "Eight Questions about Corruption", *Journal of Economic Perspectives*, 19, pp. 19-42

Svejnar J. (1999) "Labour Markets in the Transitional Central and East European Economies", in O. Ashenfelter and D. Card, (eds.), *Handbook of Labour Economics*, 3, Elsevier Science, BV

Tanzi, V. (1996) "Fiscal Federalism and Decentralization: A Review of some Efficiency and Macroeconomic Aspects", *Annual World Bank Conference on Development Economics*, the World Bank, Washington DC

Tanzi, V. and Davoodi, H. (1998) "Roads to Nowhere: How Corruption in Public Investment Hurts Growth", *International Monetary Fund*, Economic Issue 12

Tanzi, V. (1998) "Corruption around the World: Causes, Consequences, Scope, and Cures", *IMF Staff Papers*, 45(4), pp. 559-694

Tanzi, V. (2000) "Some Politically Incorrect Remarks on Decentralisation and Public Finance". in J.-J. Dethier (eds.), *Governance, Decentralisation and Reform in China, India and Russia*, Kluwer Academic Publishers and ZEF, pp. 47-64

Thomas, J. and Worrall, T. (1994) "Foreign Direct Investment and the Risk of Expropriation", *Review of Economic Studies*, 61, pp. 81-108

Tiebout, C.M. (1956) "A Pure Theory of Local Expenditures", *Journal of Political Economy,* 64(5), pp. 416-424

Treisman, D. (2000) "The Causes of Corruption: A Cross National Study", *Journal of Public Economics*, pp. 399-457

Treisman, D. (2002) "Decentralisation and the Quality of Government", Department of Political Science, mimeo, University of California, Los Angeles

Tuman, J.P. and Emmert, C.F. (1999) "The Political Economy of US Foreign Direct Investment in Latin America: A Reappraisal", *Latin American Research Review*, 39(3), pp. 9-28

Tung, S. and Cho, S. (2001) "Determinants of Regional Investment Decisions in China: An Econometric Model of Tax Incentive Policy", *Review of Quantitative Finance and Accounting*, 17, pp. 167-185

Tavares, J. (2003) "Does Foreign Aid Corrupt?", *Economics Letters*, 79, pp. 99-106

UNCTAD (1998) *World Investment Report: Trends and Determinants,* United Nations Conference on Trade and Development

UNCTAD (2008) *Recent Developments in International Investment Agreements*, United Nation Conference on Trade and Development

Urata, S. and Kawai, H. (2000) "The Determinants of the Location of Foreign Direct Investment by Japanese Small and Medium-Sized Enterprises", *Small Business Economics*, 15(2), pp. 79–103

Yudaeva K.V., Kozlov K.K., Melentieva N.Y., and Ponomareva N. B. (2001) "Does Foreign Ownership Matter? Russian Experience", Working Paper No. 2001/027, Moscow, New Economic School

Venables, A.J. (1998) "Agglomeration, Comparative Advantage, and International Specialisation: A Multi-Industry Model", Department of Economics, London School of Economics

Voyer, P.A. and Beamish, P.W. (2004) "The Effect of Corruption on Japanese Foreign Direct Investment", *Journal of Business Ethics*, 50, pp. 211-224

Vernon, R. (1966) "International Investment and International Trade in the Product Cycle", *The Quarterly Journal of Economics*, 80(2), pp. 190-207

Wade, R. (1997) "How Infrastructure Agencies Motivate Staff: Canal Irrigation in India and the Republic of Korea", in A. Mody (eds.), *Infrastructure strategies in East Asia*, the World Bank, Washington DC

Walton, J. and Ragin, C. (1990) "Global and National Sources of Political Protest: Third World Responses to the Debt Crisis", *American Sociological Review,* 55, pp. 876-890

Weber Abramo, C. (2005) "How far Perceptions Go?", Working paper, Transparency Brazil

Wei, Y., Liu, Z., Parker, D. and Vaidya, K. (1999) "The Regional Distribution of Foreign Direct Investment in China", *The Journal of Regional Studies Association,* 9(1), pp. 857-867

Wei, S.J. (2000) "How Taxing is Corruption on International Investors?", *Review of Economics and Statistics*, 82, pp. 1-11

Weingast, B.R. (1995) "The Economic Role of Political Institutions: Market-Preserving Federalism and Economic Development", *Journal of Law, Economics and Organisation*, 11(1), pp. 1-31

Wheeler, D. and Mody, A. (1992) "International Investment Location Decisions: The Case of US Firms", *Journal of International Economics*, 33, pp. 57-76

Wilson, J. Q. (1966) "Corruption: The Shame of the States", *Public Interest*, pp. 28-33

Williamson, O.E. (1981) "The Modern Corporation: Origins, Evolution, Attributes", *Journal of Economic Literature,* 19, pp. 1537-1568

World Bank (1998) *Investment Report: Trends and Determinants*, the World Bank

World Bank (2001) *The Russian Federation after the 1998 Crisis: Towards "Win-Win" Strategies for Growth and Social Protection*, the World Bank

World Bank (2004) *A Better Investment Climate for Everyone*: *World Development Report 2005*, the World Bank and Oxford University Press

World Bank (2006) *World Development Indicators 2006*, the World Bank

World Bank (2008) *World Development Indicators 2008: Russian Economic Report*, the World Bank.

Yang, J.Y.Y., Groenewold, N. and Tcha, M. (2000) "Determinants of Foreign Direct Investment in Australia", *Economic Record*, 76, pp. 45-54

Yakovlev, EE. And Zhuravskaya, E. (2004) "State Capture and Controlling Owners of Firms", CEFIR Working Paper N. 44

Zayonchkovskaya, Z. A. (1994) "Migration of Population and Labour Market in Russia", *Institute for Economic Forecastin*g, pp. 66

Zellner, A. and Theil, H. (1962) "Three-Stage Least Squares: Simultaneous Estimation of Simultaneous Equations", *Econometrica*, 30(1), pp. 54

Zhao, H. (2003) "Country Factor Differentials as Determinants of FDI Flow to China", *Thunderbird International Business Review*, 45(2), pp. 149-169

Zhao, H., Kim, S. H. and Du, J. (2003) "The Impact of Corruption and Transparency on Foreign Direct Investment: An Empirical Analysis", *Management International Review*, 43(1), pp. 41-62

Zhang, K.H. (2001) "Does Foreign Direct Investment Promote Economic Growth? Evidence from East Asia and Latin America", *Contemporary Economic Policy*, 19(2), pp. 175-185

Zhuravskaya, E. (2000) "Incentives to Provide Local Public Goods: Fiscal Federalism Russian Style," *Journal of Public Economics*, 76 (3), pp. 337-368

# Appendix 2:

**Table 2.1 Summary of Selected Recent Studies of FDI Determinants**

| *Study* | *Level of Data* | *Type of Data* | *Sample period* | *Home/Host Country* | *Issue under investigation* | *Findings* |
|---|---|---|---|---|---|---|
| 1. Coughlin et al. (1991) | State-level | Panel | 1981-83 | Host: USA | Intra-country determinants of FDI. | The main determinants of FDI are state land area, per capita income, agglomeration, labour market conditions (e.g., wage rates, the degree of unionisation, unemployment rate), transportation network, taxes, and the state expenditures. |
| 2. Head et al. (1995) | Firm-level | Time-series | After 1980 | Host: USA; Home: Japan | Locational determinants of FDI. | Markets size, the effect of the labour variables and the influence of government policy found to have small and insignificant impact on FDI, infrastructure in the area exerts a positive but insignificant influence on foreign establishments. |
| 3. Braunerhjelm and Svensson (1996) | Firm-, industry, country-levels | Time-series | 1978, 1986, 1990 | Home: Sweden Host: 18 OECD countries | Locational determinants of FDI. | When agglomeration effects are present, predominantly in technologically advanced industries, market size, the supply of skilled labour and earlier exports' pattern, found to affect the location of overseas production. |

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| 4. | Broadman and Sun (1997) | Regional-level | Cross-section | 1992 | Host: China | Locational determinants of FDI. | Five 'locational advantage' factors are outlined to be important determinants of FDI. Taken together, these variables represent a region's level of economic development and its overall foreign investment policy environment. |
| 5. | Devereux and Griffith (1998) | Firm-, industry-, country-levels | Panel | 1980-1994 | Home: USA Host: Developed | Locational determinants of FDI. | Agglomeration is found to be important. The effective tax rate plays a role in the choice between locations, but not in the choice of whether to locate production in Europe. |
| 6. | Gastanaga et al. (1998) | Cross-country | Pooled cross-section and time-series data | 1970–95 | Host: 49 less-developed countries | Locational determinants of FDI. | Exchange rate distortions found not to influence FDI significantly. On the other hand, the expected rate of growth is highly significant determinant of FDI. Corruption is found to deter FDI. |
| 7. | Billington (1999) | Regional and country level | Time-series | Between 1992-1996 | Host: 11 regions of the UK | Locational determinants of FDI. | At country level, market size variables (e.g., income and growth), unemployment, level of host country imports and certain policy variables (e.g., corporate tax and interest rates) are found to be significant determinants of location. At regional level, population density, unit labour costs and unemployment are the most |

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| | | | | | | influential factors. |
| 8. Wei et al. (1999) | Regional | Panel | 1985-1995 | Host: China | Locational determinants of FDI. | Regions with a higher level of international trade, lower wage rates, more R&D manpower, higher GDP growth rate, quicker improvement in infrastructure, more rapid advances in agglomeration, more preferential policies and closer ethic links with overseas Chinese attract relatively more pledged FDI. |
| 9. Tuman and Emmert (1999) | Cross-country | Time-series | 1979-1996 | Home: USA Host: Latin America | Determinants of FDI. | Significant determinants include market size, economic policies and certain types of political instability. |
| 10. Barrell and Pain (1999) | Cross-country | Panel | 1980-1991 | Home: Japan Host: EC countries and the USA | Determinants of FDI. | Controlling for the market size and labour costs, FDI is found to be influenced significantly by trade barriers. |
| 11. Resmini (2000) | Cross-country | Panel | 1991-1995 | Home: CEECs | Determinants of FDI. | Political and macroeconomic stability as well as transparent legal regulations, concerning foreign ownership and profit repatriation, are found to be important variables to potential investors. |
| 12. Cheng and Kwan (2000) | Regional | Panel | 1985 to 1995 | Host: China | Locational determinants of FDI. | Important determinants are regional market size, good infrastructure and preferential policy; wage cost has a negative effect. |
| 13. Guimarães et al. | Country | Cross - | Between | Host: Portugal | Determinants | Agglomeration economies are |

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| (2000) | | section | 1982-1992 | | of FDI. | decisive location factors. |
| 14. Yang et al. (2000) | Country | Time-series | Mid 1980 | Host: Australia | Determinants of FDI inflows. | Interest rates, wage, the openness of the economy and a variable representing industrial disputes as well as social status of a country are found to be important determinants of FDI. |
| 15. Henisz (2002) | Cross-country | Panel | 1880-2000 | Host: 119 Countries | Determinants of FDI. | Findings support the importance of institutional development and economic and political risk consisted of macroeconomic stability such as variance in growth rates, institutional stability reflected in policies towards FDI, tax regimes, transparency and effectiveness of the commercial legal code, extent of corruption and political stability. |
| 16. Coughlin and Segev (2000) | Regional-level | Cross-section | 1990-1997 | Host: China Home: US | Determinants of FDI. | Economic size, labour force quality, agglomeration and urbanisation economies, and transportation infrastructure are found to affect positively the location of new foreign-owned plants, while unit labour costs and taxes to deter new plants. Key advantages of some regions found to stem from relatively high manufacturing density and low taxes, whereas comparing urban with rural |

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| | | | | | | counties. |
| 17. Cheng and Kwan (2000) | Regional-level | Panel | 1985-1995 | Host: China | Determinants of FDI. | (i) the effect of education is positive but not statistically significant, and (ii) there is a strong self-reinforcing effect of FDI on itself. Large regional market, good infrastructure, and preferential policy were found to have a positive effect and wage cost to have a negative effect on FDI. |
| 18. Driffield and Munday (2000) | Industry-level | Panel | 1984-1992 | Host: UK | Determinants of FDI. | R&D intensity in the relevant UK sector has a significantly positive effect on inward FDI, which gives some evidence of the importance of proprietary knowledge – as a source of ownership advantage rather than as evidence of technology sourcing. However, there was found relatively weak evidence for outright technology sourcing by inward investing. |
| 19. Urata and Kawai (2000) | Firm-level | Time-series | Mid 1980s | Home: Japan Host: Asia | Locational determinants of FDI. | Low-wage labour, availability of well-developed infrastructure, and good governance of the host government as well as sizable local market are found to be important. |
| 20. Tung and Cho (2001) | Regional-level | Panel | 1988-1994 | Host: China | Determinants of FDI. | Tax rates and incentives are important determinants, after |

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| | | | | | | controlling for infrastructure, unemployment rate, wage rate and agglomeration economics. The areas offering lower tax rates and increased tax incentives were found to attract greater amounts of FDI. Infrastructure variables are found to be important determinants of regional investment decisions. |
| 21. Chakrabarti (2001) | Cross-country | Cross-section | 1994 | Home: 135 developed country | Determinants of FDI. | Only openness and market size are the variables that are consistently related to the size of FDI inflows. |
| 22. Sun et al. (2002) | Regional-level | Panel | 19986-1998 | Host: China | Locational determinants of FDI. | Labour quality, infrastructure and country's openness to the foreign world are found to be important determinant of FDI distribution. |
| 23. Asiedu (2002) | Cross-country | Panel | 1990-1993 | Home: US Host: Africa | Determinants of FDI. | A higher return on investment and better infrastructure have a positive impact on FDI on other than African countries; openness to trade promotes FDI with less marginal benefit for African countries. |
| 24. Bandelj (2002) | Cross-country | Cross-section | 1992-1994 | Host: CEECs | Determinants of FDI. | Little evidence for the effects of country's characteristics found. Political, migration, trade, and cultural relationships between investors and hosts |

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| | | | | | | have strong positive impact on FDI/key explanation of the cross-country variance. |
| 25. Zhao (2003) | Cross-country | Polled cross-country time-series | 1983-1999 | Host: China | Determinants of FDI. | High level of FDI from source countries occurred when the Chinese market exhibited a higher growth rate than source countries and when the source countries had a relatively strong currency value versus the Chinese currency. However, the FDI flow to China tended to be low when China had a relatively less stable political environment and higher operational risk and when source countries had higher costs of borrowing domestically. |
| 26. Kinoshita and Campos (2003) | Cross-country | Panel | Between 1990 and 1998 | Host: 25 transition countries (the CEEEs, the Baltics and the CISs) | Determinants of FDI. | The most important determinants of FDI location are found to be institutions and agglomeration economies. The region's FDI is found to be motivated by abundance of natural resources and labour cost. Poor quality of bureaucracy is found to be a deterrent to foreign investors as they conceive it as a high transaction cost which directly affects profitability of their investment projects. |

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| | | | | | | The rule of law, openness and low extent of restrictions on FDI as the destination of their investment as well as the progress on economic reform (external liberalisation) are found to be significant. |
| 27. Li and Resnick (2003) | Cross-country | Pooled cross-section time-series | 1982-1995 | Host: Developing Countries | Determinants of FDI. | The volatility of regime change increases uncertainty investors about host country's future economic policies (e.g., interest rates, government budget deficit, or taxation). Conversely, stable domestic political institutions reduce the risk for foreign capital. Other significant variables found are market size, economic development, economic growth, labour cost, and capital flow restrictions. |
| 28. Bevan and Estrin (2004) | Panel | Cross-country | 1984-2000 | Host: EU-14 Home: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic, Slovenia or Ukraine. | Determinants of FDI. | FDI is found to be determined by unit labour costs, host and source country size, and proximity with country risk being insignificant factor. |
| 29. Disdier and Mayer (2004) | Cross-country | Panel | 1980-1999 | Host: 13 EU countries and | Determinants of FDI. | Agglomeration effects are less strong in CEECs than in EU. |

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| | | | | 6 CEECs (Bulgaria, Hungary, Poland, Romania, Slovenia, and ex-Czechoslovakia) Home: France | | Location decisions are influenced significantly and positively by the institutional quality of the host country. |
| 30. Carstensen and Toubal (2004) | Cross-country | Dynamic Panel | 1993-1999 | Home: 10 OECD countries (Austria, Belgium (including Luxembourg), Denmark, France, Italy, Germany, Portugal, Spain, UK and US Host: 7 CEECs countries (Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovak Republic and Slovenia. | Determinants of FDI. | Traditional determinants (e.g., market potential, low relative unit labour costs, a skilled workforce and relative endowments) have significant and plausible effects. Transition-specific factors (e.g., the level and method of privatisation and the country risk) play important roles in determining the flows of FDI. |
| 31. Janicki and Wunnava (2004) | Cross-country | Cross-section | 1997 | Host: Bulgaria, Czech Republic, Estonia, Hungary, Poland, Romania, Slovak Republic, and Slovenia | Determinants of FDI. | Key determinants are size of the host economy, host country risk and openness to trade. |

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| 32. Boudier-Bensebaa (2005) | Regional | Cross-sectional Time-series | 1991-2000 | Host: Hungary | Locational determinants of FDI. | Regions with higher labour availability, greater industrial demand and higher manufacturing density attract more FDI. Higher unit labour costs attract FDI and inter-industrial agglomeration economies and infrastructure availability are found to be important. |
| 33. Busse and Hefeker (2007) | Cross-country | Cross-section | 1984-2003 | Host: 83 Developing | Determinants of FDI. | Rather few indicators for political risk and institutions are closely associated with FDI (with the exceptions of government stability, law and order, and quality of bureaucracy). |
| 34. Basile (2004) | Cross-country | Cross-section | 1986-1999 | Home: Italy | Locational determinants of FDI. | Location determinants strongly differ according to the foreign entry mode as well as by location decisions of previous foreign investors, congestion costs (due to the lack of available labour force in the big northern cities). Southern provinces (with high unemployment rates) have a high potential attractiveness. Foreign acquisitions are affected by supply of acquisition candidates, demand level, public infrastructure, stock of foreign firms and unit |

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| | | | | | | labour costs. |
| 35. Arauzo-Carod et al. (2009) | Cross-country | Cross-section | Since 1980. | In general. | Surveys recent evidence on the determinants of (national and/or foreign) industrial location. | Find (1) agglomeration economies, unemployment, education and better transport infrastructures to have a positive effect; (2) agglomeration economies and market size to provide a significant positive effect, while wages and taxes tend to act in the opposite way. |

*Source: Author*

# Appendix 3:

**Table 3.2 Proportion of Russian Native Speakers in Russia by Regions**


*Source: Goskomstat (2006)*

**Table 3.3 Regional Average Population, Land Surface and Population Density in Russia (1995-2004)**

**Table 3.3 Cont.**


*Source: Goskomstat (2006)*

**Table 3.4 Distance from Moscow City to Russia's Regional Capitals**

**Table 3.4 Cont.**


*Source: www.russiaprofile.org*

**Table 3.5 FDI Inflows, FDI Inflows per Capita and Cumulative Sum of FDI inflows in Russia by Region (1995-2004)**

**Table 3.5 Cont.**


*Note: Figures are in RU Rub mln; deflated by CPI*
*Source: Goskomstat RF, various issues*

# Appendix 4:

Apart from the institutional data that have been taken from the Transparency International – Russia (TIR) Regional Corruption Indices 2002 (in co-operation with INDEM Fund), the data used in the thesis are taken from various issues of Goskomstat RF, the State Committee for Statistics, which is the agency dealing with statistics in the RF. Goskomstat was created in 1987 to collect, analyse, publish and distribute of state statistics, including economic, social, and population statistics. It is the only source of inter-regional data on major indicators that feature social and economic development of the subjects of the RF for the period under investigation. Publications by Goskomstat RF for all of the Russia's regions, including information on FDI at the regional level, allow data analysis of Russian regional FDI distribution that has not been possible before.

Several organisations have in recent years developed corruption perception indices across a wide range of countries to qualitatively assess the pervasiveness of corruption. These indices have been used in econometric studies either as a dependent variable when exploring the causes of corruption or as an explanatory variable when investigating its consequences. As a result, these perception-based indices have made an important contribution to the understanding of the pervasiveness of corruption across countries. While the data such as these are being used with increasing frequency by economists in their cross-country statistical studies, these data come with shortcomings which are important to point out.

The major shortcoming is that the question whether corruption can be measured *directly* is still has no answer as it is not clear what one would wish to measure. Another problem refers to the fact that these indices might also suffer from artificial 'inertia': once a country is reported to be corrupt, perception about this country may not change, leading future survey respondents to over-estimate true corruption. For instance, Mocan (2004) argues perceived and actual corruption to be completely unrelated once other relevant factors are controlled for. Andvig (2005) and Weber Abramo (2005) consequently conclude perception-based indices to reflect the quality of a country's institutions rather than its actual degree of corruption. Svensson (2005) also highlights problems in the construction of perception-based indices.

The corruption indices used in the thesis are from an international reputable source and were built on the basis of a survey of 5666 individuals and 1838 entrepreneurs (representing small and medium sized businesses) in 40 (almost a half) Russia's regions making the scale of this national study of corruption unprecedented in terms of its scale. From the data it is clear that the samples

are random and large enough to provide statistically acceptable results. Although these data are time-invariant hence, (not comparable across time), it is highly comparable across countries with a federal political structure (e.g., USA, Italy, China, Brazil, etc.)

TIR has elaborated a set of corruption indices ranging from 0 for the least corrupt region and 1 for the most corrupt region. A number of indicators, including those related to the amounts of corruption markets, were determined basing on the methods used earlier in the course of INDEM Fund study "Diagnostics of Russian Corruption" published in May of 2002.

All corruption indices are measured in comparable units. Each type of corruption is measured in annual amounts of bribes paid respectively by both individuals and businesses in comparison with GRP. As a result, it becomes possible to distinguish regions where certain types of corruption are developed out of proportion. For instance, Khabarovskiy Krai and Tyumenskaya Oblast, where business capture overweighs administrative corruption and state capture, while the overall level of corruption in these regions is relatively low. In some other regions, including Moscow City, Tulskaya and Kemerovskaya Oblasts, business corruption prevails, what may somewhat decrease the corruption experienced by individuals. Of course, there are regions where officials seem to bribe both individuals and businesses with equal eagerness (among such are Moscowskaya and Saratovskaya Oblast, St Petersburg).

According to the generalised perception of respondents, Krasnoyarskiy Krai, Saratovskaya Oblast, Republic of Udmurtia, Primorskiy Krai, Republic of Karelia perceived to be more corrupt (above the average). On the other hand, Republic of Bashkortostan, Arkhangelskaya, Kemerovskaya, Tyumenskaya, and Yaroslavskaya Oblasts were among the regions perceived to be less corrupt (below the average). If we look at the geography of corruption, we can observe a "Southern belt" of regions deeply affected by corruption, which stretches from Rostovskaya to Volgogradskaya Oblast.

Among the first ten regions that attracted on average most FDI inflows between 1995 and 2004 (i.e., Moscow City, Moscowskaya and Omskaya Oblasts, Krasnodarskiy Krai, Tyumenskaya Oblast, St Petersburg, Amurskaya, Samarskaya, Sverdlovskaya and Novosibirskaya Oblasts), four regions that were perceived to be most corrupt (above average) are Moscow City, Moscowskaya Oblast, St Petersburg and Sverdlovskaya Oblast. Among the second ten regions (i.e., Novgorodskaya Oblast, Primorskiy Krai, Tulskaya Oblast, Republic of Tatarstan, Chelyabinskaya, Nizhegorodskaya, Arkhangelskaya, Volgogradskaya, and Rostovskaya Oblasts and Stavropolskiy Krai), however, only three regions were perceived to be less corrupt (below average): Moscow City, Moscowskaya Oblast, St Petersburg and Sverdlovskaya Oblast.

The similar characteristic between all 11 regions perceived to be corrupt above the average level is that they all urban regions (having above 55% of urban population). Only three regions, namely Volgogradskaya and Rostovskaya Oblast and Stavropolskiy Krai out of 11 are abundant with natural resources (these regions annually extract oil, including gas condensate), and the rest are natural resources scarce regions. If we compare the first group of the 'leaders of corruption' (Moscow City, Moscowskaya Oblast, St Petersburg and Sverdlovskaya Oblast) and the second group of the 'leaders of corruption' (Primorskiy Krai, Tulskaya, Chelyabinskaya, Nizhegorodskaya, Volgogradskaya, and Rostovskaya Oblasts and Stavropolskiy Krai), all four regions in the first group are the regions with the higher income and are the richest regions on average. On the contrary, Republic of Bashkortostan, Arkhangelskaya, Kemerovskaya, Tyumenskaya, and Yaroslavlskaya Oblasts are among the regions least affected by corruption. To sum up, the analysis of these data shows regions that are perceived to be corrupt (above average) are also the urban once, the regions with higher income and resources scarce regions.

One possible problem that might results with the data set used in the study is the possible high correlation between the various proxies. It might be the case that the proxies suggested for the empirical analysis may overlap with one another which may lead to serious multicollinearity. In order to ascertain the degree of multicollinearity, we calculate the correlation matrix between all the potential determinants of FDI including our corruption indices highlighting in bold the pairs that are highly correlated (at around 0.7 or above). If there are any pairs that exhibit high correlations, these will be excluded from the models (Table 4.1).

Opposite to expected, high degree of correlation (correlation coefficient of 0.7 or above, as highlighted) only exists only in pairs of corruption proxies; two proxies for natural resources (i.e., OILGRP and DOIL); between two proxies for population (i.e., POP and POPDEN); and between the latter two variables measuring population (i.e., POP and POPDEN) and a proxy for special economic zones (i.e., SEZ). Therefore, by selecting the variables in Table 4.1 in the subsequent analysis multicollinearity is avoided. Table 4.2 presents descriptive statistics of all variables used in three empirical chapters for ten years between 1995 and 2004 by region. Table 4.3 shows descriptive statistics of the variables used in the study for three years between 2002 and 2004. Table 4.3 tables the definitions of the variables along with their sources.

**Table 4.1 Correlation Matrix for Potential Determinants of FDI in Russian Regions**

**Table 4.2 Descriptive Statistics of All Variables Used in the Study by Region (1995-2004)**

**Table 4.3 Descriptive Statistics of All Variables Used in the Study (2002-2004)**

**Table 4.4 Definitions of All Variables Used in the Study and their Sources**

| *Variable* | *Source* | *Chapters in which variable is used* | *Description* |
|---|---|---|---|
| *FDIST* | Goskomstat (2005) | Chapter 5-7 | Stock of FDI (2002-2004) refers to the total accumulated value of FDI at a given year deflated by CPI in $US mln. |
| *GRPCAP* | Goskomstat (2005) | Chapter 5-7 | Annual rate of GRP per capita deflated by CPI (2002-2004) in RU Rubles mln. |
| *CORR10* | TIR (2002) | Chapter 5-7 | Index of administrative business corruption related to ordinary extortion. Higher values show higher level of perceived corruption. |
| *CORR11* | TIR (2002) | Chapter 5-7 | Index of state capture related to the situations when businesses purchase administrative decisions. Higher values show higher level of perceived corruption. |
| *CORR12* | TIR (2002) | Chapter 5-7 | Index of business capture related to the situations when officials unlawfully size control over firms abusing their office. Higher values show higher level of perceived corruption. |
| *CORR6* | TIR (2002) | Chapter 5-7 | Index of public trust built basing on responses given by firms answering the question about their confidence in different organisations including the authorities of different branches (executive, legislative, judiciary and law enforcement agencies) and levels (federal, regional and local/municipal authorities). Higher values show lower level of trust. |
| *DOUTL* | Goskomstat (2005) | Chapter 5-6 | A dummy variable which takes a value of 1 for Moscow city and 1 for Sakhalin, and 0 otherwise. |

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| *NATRES* | Expert RA (2005) www.gateway2russia.com | Chapter 5-6 | Proportion of oil, gas and gas condensate extraction (in thousands tonnes) in annual GRP (in RU Rubles). |
| *SKILL* | Goskomstat (2005) | Chapter 5-6 | A number of college graduates with technical qualifications, in thousand people. |
| *EU* | www.russiaprofile.org | Chapter 5-6 | A dummy variable which takes a value of 1 for regions that have a boarder with the EU, and 0 otherwise. |
| *PORT* | www.russiaprofile.org | Chapter 5-6 | A dummy variable which takes a value of 1 for region with sea ports, and 0 otherwise. |
| *SEZ* | www.russiaprofile.org | Chapter 5-7 | A dummy variable which takes a value of 1 for 18 Special Economic Zones created between 1992 and 2004, and 0 otherwise. |
| *POPDEN* | Goskomstat (2005) | Chapter 5-6 | Population density, in thousands people per thousand sq. km. |
| *URBAN* | Goskomstat (2005) | Chapter 5-7 | A dummy variable which takes a value of 1 for regional large cities with population over 1,000,000, and 0 otherwise. |
| *DIST* | www.russiaprofile.org | Chapter 5-7 | Distance from Moscow city to a regional capital, in thousands km. |
| *TEMP* | www.russiaprofile.org | Chapter 5-7 | Average annual January temperature, C°. |
| *PUBINROADS* | Goskomstat (2005) | Chapter 6 | A dummy variable which takes a value of 1 if an annual increase in the length of paved roads and railways, and 0 otherwise. |
| *PUBINTELS* | Goskomstat (2005) | Chapter 6 | A dummy variable which takes a value of 1 if an annual increase in the number of telephones (land and mobile) per person in both urban and rural places, and 0 otherwise. |
| *DOIL* | Goskomstat (2005) | Chapter 7 | A dummy variable which takes a value of 1 for any oil, gas and gas condensate extraction, and 0 otherwise. |

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| *DECLABCAP* | Goskomstat (2005) | Chapter 7 | Ratio of governmental employees in the total number of employed people, thousand people. |
| *IND* | Slinko et al. (2005) | Chapter 7 | Index of preferential treatment of firms through laws and regulations (1992-2002) was constructed to measure capture and firms' political power; the database of regional laws and regulations that treat selected large firms in the regions preferably (i.e., if they receive any of the following benefits: tax breaks, investment credits, subsidies, subsidised loans and loans with regional budget guarantee, official delays in tax payments, subsidised licensing, free grants of state property, or a SEZ status for their territory). |
| *POP* | Goskomstat (2005) | Chapter 7 | Number of people (2002-2004), thousand. |
| *DREP* | www.rassiaprofile.org | Chapter 7 | A dummy variable which takes a value of 1 for the regions with Republican status, and 0 otherwise. |